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FIREMEN

FIFTY-NINTH YEAR · NATIONAL FIRE PROTECTION ASSOCIATION

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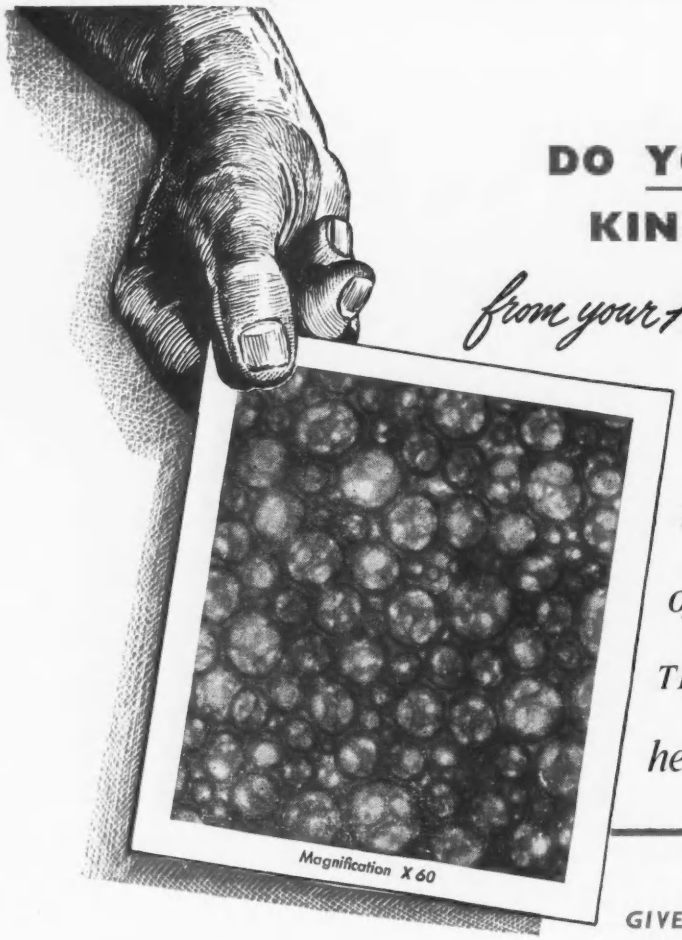

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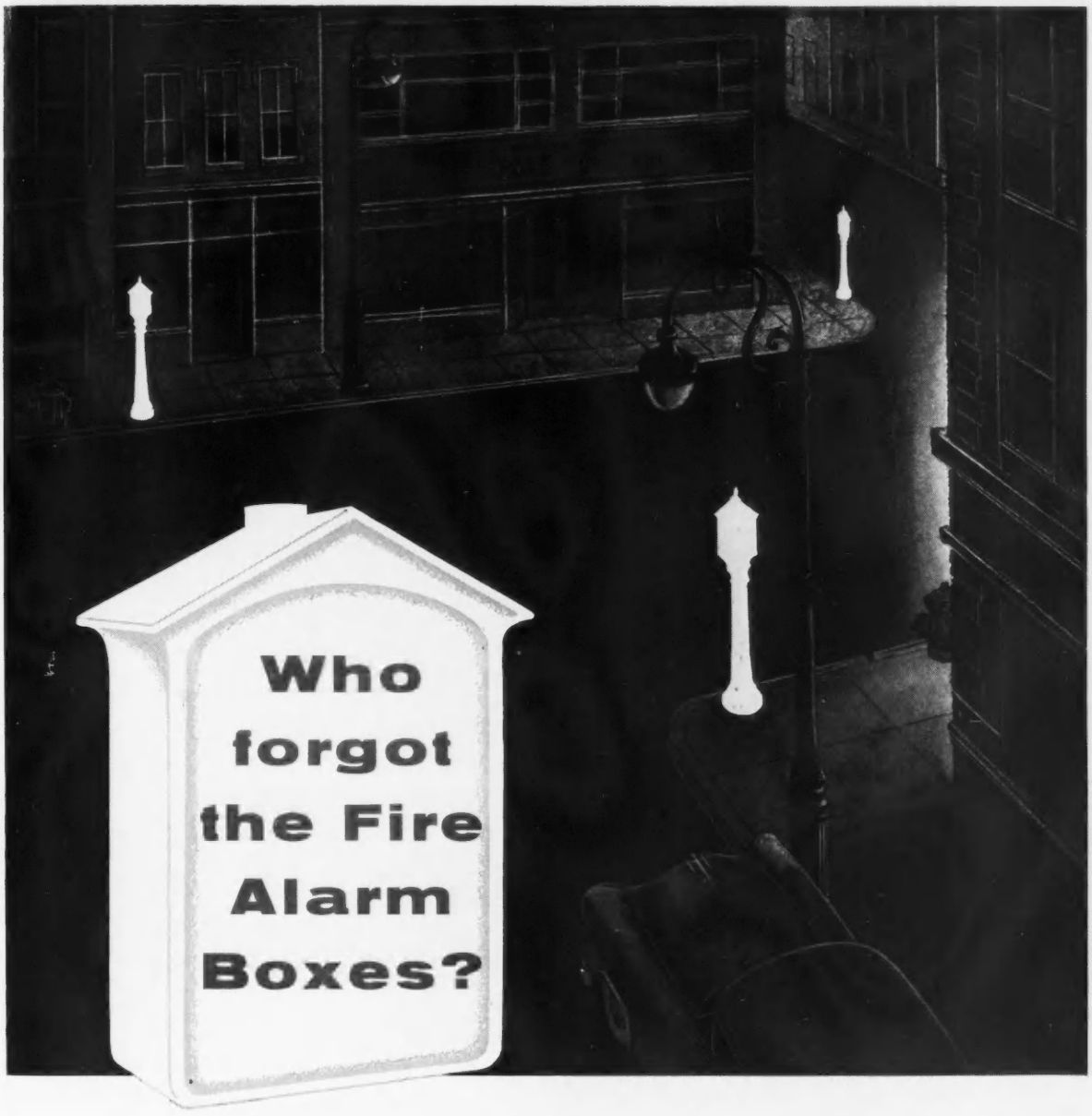

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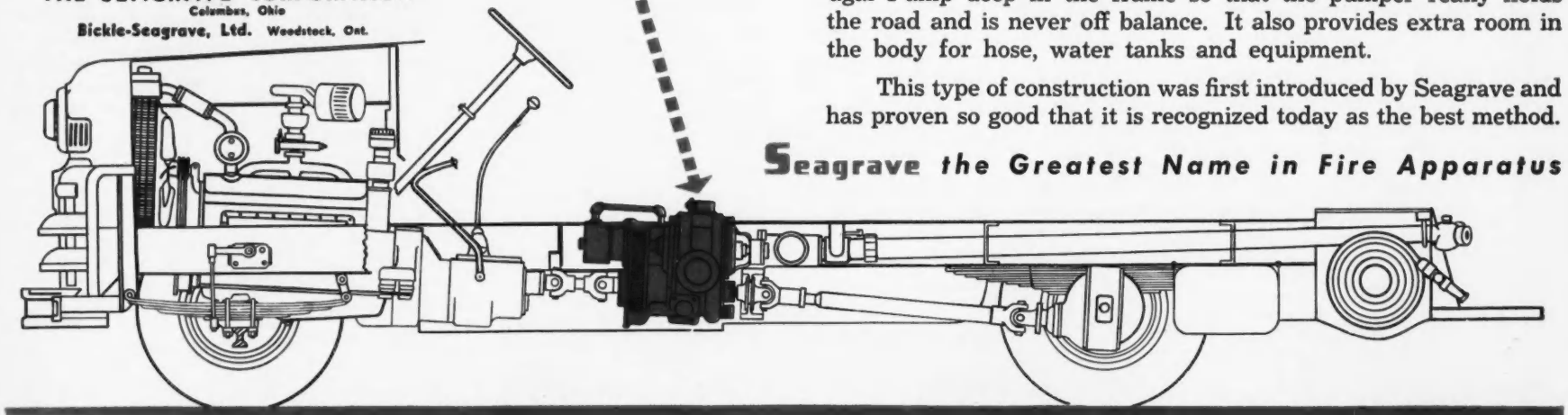

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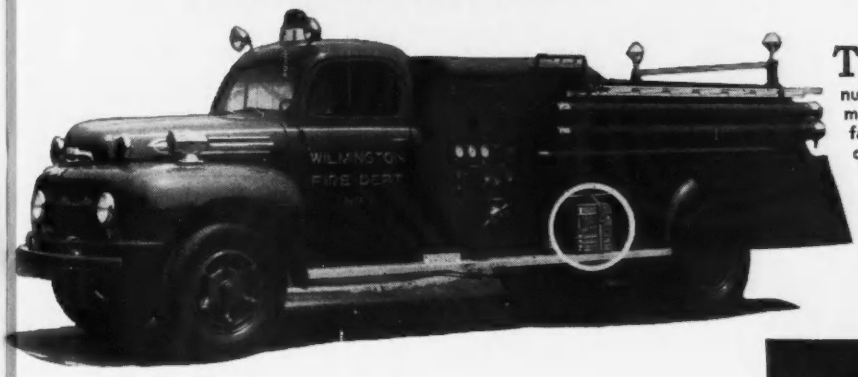
MORE NEW TRUCKS NOW HAVE INDIAN FIRE PUMPS AS STANDARD EQUIPMENT THAN EVER BEFORE!



THE purchase of new apparatus is a matter of major concern to every fire department. An ever-increasing number of brand-new trucks with **INDIAN FIRE PUMPS** mounted are now being delivered. Many truck manufacturers list **INDIAN FIRE PUMPS** as standard specifications.

The portability, convenience and efficiency of **INDIANS** has won high recognition. So, naturally, when a sizeable investment is made in new equipment, the buyer wants the back-pack pumps that do an outstanding job on all types of fires.

Shown here are just a few of the many new trucks which have been delivered with INDIANS as specified.

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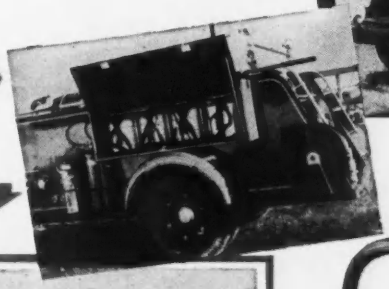
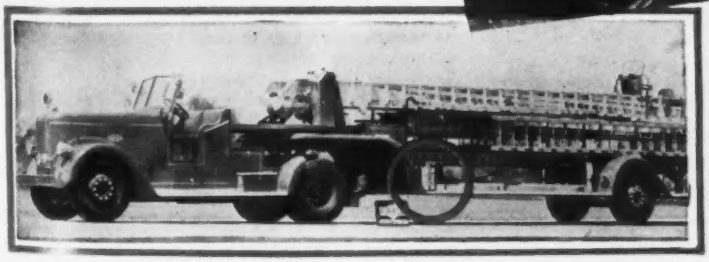


This Peter Pirsch & Sons Co., Kenosha, Wisc., 85 ft. 3 piece hydro-mechanical aluminum aerial ladder truck in service in the city of New York Fire Department, is equipped with INDIAN FIRE PUMPS.



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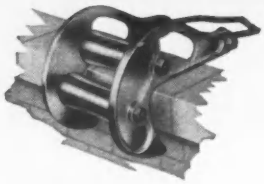

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Constructed of Wooster-lite alloy with bronze bushing and cold rolled steel pins and rope hook. This roller weighs less than 10 lbs. It is 13" long and 8" wide and high. Most departments are now specifying this hose roller on all their pumper specifications as well as ladder trucks.

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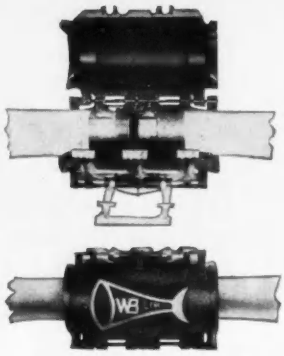

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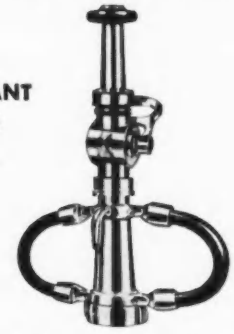
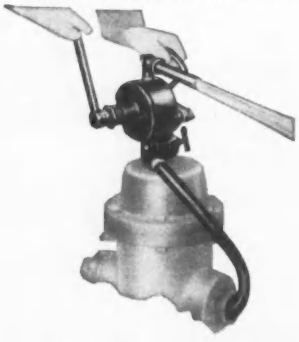


With cushion ball shut-off and 6" std. threaded tip and rubber bumper.



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Firemen

Volume 21 Number 8

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Courage Based on Confidence

On the cover and on page 10 of this issue of FIREMEN appear photos and a report of tests covering the use of large capacity fog nozzles attached to aerial ladder pipes. These test fires were conducted last month by the fire department of Kansas City, Missouri, in a 4-story warehouse. The fires showed the effectiveness of large fog streams in quickly reducing heat from major fires, but perhaps of equal importance was the courageous spirit of inquiry that this undertaking embraced.

Many tests of fire fighting with fog nozzles have been conducted during the past several years but all have been applied to dwellings and other buildings of moderate size. There have been many favorable reports as to the effectiveness of large fog nozzles on accidental fires but the Exploratory Committee on the Application of Water previously had not had an opportunity to observe large scale tests in which fuel, heat, and use of water could be measured and results evaluated.

It took no small amount of courage for Director Francis Wornall and Chief Edgar M. Grass to deliberately start fires of third alarm proportions in the high value district in the interest of improving the science of fire protection in of conducting these fires in broad daylight with invited guests consisting of some 250 of the top experts on fire protection in the United States.

Fires seldom behave in predictable fashion. These fires were no exception, for they did not behave according to plan. This made the tests all the more authentic as fire fighters had to work under unexpected handicaps, such as when a switch engine severed several lines of hose at a critical moment.

The way the Kansas City Fire Department met these exigencies proved that Director Wornall and Chief Grass had ample reason for confidence in their own organization when they staged these tests and invited the visiting firemen. The efficiency with which the officers and fire fighters operated their equipment is one more indication of why, among the larger cities, the Fire Department of Kansas City, Missouri, is considered one of the top fire forces.

"Class A" and "Class B"

The difference between "Class A" and "Class B" pumpers has been explained so frequently (See NFPA-IAFC-NBFU Standard No. 19, Specifications for Motor Fire Apparatus) that it seems hard to account for the considerable misconception in some areas regarding these classifications.

Briefly, the "Class A" pumper is one, tested at draft, that delivers its rated capacity at 150 lbs. net pump pressure. The "Class B" pumper, tested at draft, delivers its rated capacity at 120 lbs. net pump pressure.

However, in certain states, rural fire departments are graded as "Class A" and "Class B" for fire insurance rating purposes. "Class A" credit is given for an approved 500 gpm pumper of either Class A or Class B pumping performance. "Class B" credit given for a tanker with a booster pump. As a result a number of persons apparently have assumed that a Class A pumper was necessary for approval of a rural fire department for Class A grading and a Class B pumper for "B" grading. This, of course, is not the case.

To some observers a solution of such misconceptions would be to eliminate the differing requirements for pumping engine tests. When Class A and Class B designations were established for pumpers, only the heavier, custom built apparatus met the requirement for rated capacity at 150 lbs. net pump pressure.

Today most assemblies on commercial chassis can meet the Class A test. Most city fire departments now buy only Class A pumpers. A suggestion has been made that all pumpers (other than booster pumps) be rated at 150 lbs. net pump pressure and that they be also required to deliver 120 percent of rated capacity at 120 lbs. Actually, with fog nozzle pressures in the 100-lb. range, pump output at 200 and 250 lbs. net pump pressure may be more important than output at rated capacity.

In other words, should pumpers be rated at 200 lbs. net and provide a given excess of capacity at 150 lbs.? No doubt the Committee on Fire Department Equipment will recommend appropriate ratings as improved equipment provide increased performance from pumpers.

"What Does NFPA Mean to the Fire Service?"

This talk by Chief Henry G.Thomas of the Hartford, Connecticut, Fire Department was one of the highlights of the Volunteer Firemen's Forum of the recent 58th NFPA Annual Meeting. Chief Thomas is President of the International Association of Fire Chiefs, Vice President of the NFPA, and Chairman of the NFPA Committee on Fire Department Equipment.

WHAT does NFPA mean to the fire service? It means so much that, in my sincere opinion, no fire company, fire official, or individual who has accepted responsibility for fire protection in his community, can afford not to be a member of the National Fire Protection Association.

I might emphasize the amount of time devoted to the interests of the fire fighter during this 1954 conference. But the NFPA provides more than a week-long program. It provides information and materials which the fireman can study, and by diligent application, further his own education, efficiency, and value to his individual fire department. Many fire departments throughout the country have libraries developed with such materials obtained through membership in NFPA.

The true spirit of the brotherhood of man — the spirit that built this country of ours — is exemplified today in the volunteer fire department. The chiefs of these departments have demonstrated that they can do good jobs of extinguishment, and that they are interested in fire prevention. They know the causes of fire and have the "know-how" to advise their communities on the elimination of fire hazards. Their work has brought international recognition, as shown by the National Fire Protection Association Awards for Fire Prevention Week Activities.

At this moment it is an honor and a privilege for me to make a presentation to the chief of an outstanding fire department. If Chief Wade of Kentville, Nova Scotia, will come forward I will present him with this bronze plaque. The wording on the plaque is "Grand Award Winner in Canada. Presented for excellence in Fire Prevention Week activity, Kentville, Nova Scotia, (presented by) Fire Prevention and Clean-Up Campaign Committee of the National Fire Protection Association."

Chief B. R. Wade (left) of Kentville, Nova Scotia, receives plaque for Grand Award in NFPA Fire Prevention Week Contest from Chief Henry G. Thomas.

I heard Chief Wade talk on fire prevention at the Toronto convention of the International Association of Fire Chiefs last Fall, and Chief, I'm not surprised that you have won this outstanding award for your community through your efforts and the efforts of firemen in your department. Congratulations.

More and more chiefs are accepting responsibility and following Chief Wade's example in practicing fire prevention. They're doing a better job of fire protection and fire prevention because of materials made available by the National Fire Protection Association, because of the work of NFPA committees, and because of the opportunities for exchanging ideas. If a fire chief attends this conference he can get information which will help his own community. He can discuss his problems with fire chiefs, firemen, engineers, architects, and many other NFPA members.

Chief Wade would be the first to tell you that the fact of his winning the award isn't so much as the deeper sense of having done something for someone else. Deeper, perhaps, is a sense of satisfaction in providing good fire protection in his community; perhaps minimizing danger to life, or by containment of fire which might have occurred; that's the real satisfaction.

I was in a Kensington (Md.) fire house the other night and noticed the zeal and conscientiousness with which the men did their jobs. When they came back from that wonderful display of teamwork which was performed at the Civil Defense Exercise in Olney, Maryland, they didn't just throw equipment into the station. Long after midnight they were cleaning hose and getting other tools and equipment ready, should they be needed for another run.

There has been an evolution in the fire service. I think the most progressive example of this was displayed in recent orders of the Fire Commissioner of New York City. (See FIREMEN for June, 1954.) In those orders Commissioner Cavanagh stated that from now on New York City fire companies will make daily building inspections, using radio-equipped apparatus.

In this advancement of the fire service we have the cooperation of the NFPA, the International Association of Fire Chiefs, the National Board of Fire Underwriters, all the member divisions of the IAFC, including our Canadian friends across the border.

As I pointed out this afternoon, in the letter from Governor Peterson, head of the Federal Civil Defense Administration, the fire service obtained recognition only because of this coordinated effort. It is because we like what we're doing and know what we're doing, that we can improve our positions and be accepted in our communities.

Surely we must have pride in our jobs. We must exchange ideas. We must keep up to date by attending conferences like this NFPA meeting. My friends, that's what the NFPA means to me as a fire chief. I know that it has the same meaning for you.

Fire Experience Records

Pay Off in Providence

AS in many communities, the Fourth of July holiday week-end was a relatively busy time for the Providence, Rhode Island, Fire Department. Fire prevention publicity by TV and radio greatly reduced the number of calls from high figures of previous years, but past experience led Chief Lewis A. Marshall and Chief of Communications O'Brien to expect an abnormal number of calls, including those for street fires in the tenement districts.

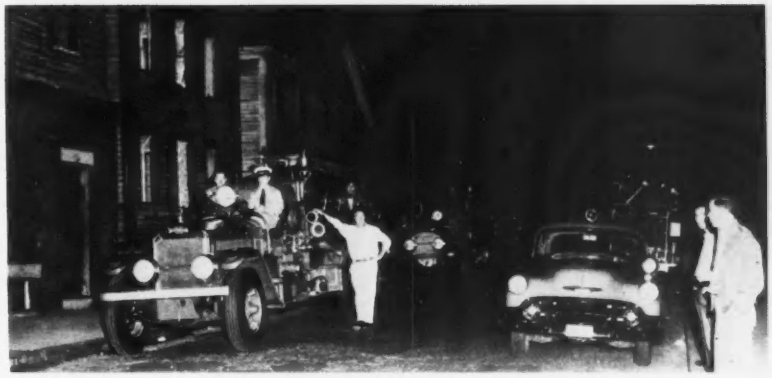
Accordingly, each evening during the holiday period, an emergency was declared. Off-duty fire fighters were retained to man the department's 14 fully-equipped reserve pumpers, 5 reserve ladder trucks, plus several Civil Defense trucks.

Locations of 1953 Fourth of July fire calls were pinpointed on a map showing four critical areas where most of these calls occurred. This map was photographed and issued to various chief officers. An off-duty battalion chief was assigned to patrol each of these areas to supplement police cruiser cars. Two command posts were set up adjacent to the four trouble spots and at least 5 reserve companies, manned by off-duty crews, operated from each of these CP's when notified of fires by officers on radio patrol.

This year all of the nuisance calls were handled by the 19 reserve companies, leaving the regular first-line department intact for normal response. This was fortunate for several alarms of a potentially serious nature were received. These included a fire in a large convalescent home to which the full first alarm assignment responded from their own quarters.

However, response to street boxes was reduced during the holiday period due to the likelihood of false alarms. First due engines were instructed to call for a full assignment by radio where working fires were encountered but proved able to cope with all fires without requesting additional help.

Incidentally, Chief Marshall reports that it is the practice to recall the off-shift and man reserve apparatus after a 3rd alarm. There was one such alarm each in 1952 and 1953 and none during the first half of 1954. As there are a disproportionate number of ladder companies in quarters after a third alarm, (as compared with engine companies), ladder company officers are instructed to detail 2 men to the reserve pumper in their station and operate as a double unit until off-shift men arrive.



One of the Providence command posts during the Fourth of July week-end. This was at Robinson and Gay Streets where there are about 200 houses, many of which are being razed for a school house and recreation plant. Reserve apparatus and off-duty men helped to save regular apparatus from "bonfire" runs. Altogether 126 alarms were received during the holidays.

Within a half-hour after the recall for off-duty personnel is sounded all companies responding to the fire have been replaced by fully-manned reserve units. The fire alarm dispatchers' board shows a "clear slate," although half the regular force may be at a fire.

THE Providence Fire Department protects a city of 248,000 population covering 18 square miles. There are 18 engine, 10 ladder, 2 rescue companies and a salvage unit organized into 4 battalions. A recently completed fire station relocation program made possible a reduction of 5 engine and 2 ladder companies, with improved manning for the remaining units.

Fire fighters work a 68 hour week on 10 and 14 hour tours. Cadets are now being trained to provide additional personnel for a 56 hour work week. (See FIREMEN for November, 1950.)

Response to box alarms and telephone calls to building fires during daylight hours consists of a reduced assignment permitted by the National Board of Fire Underwriters grading schedule and includes 2 engines, 1 or 2 ladder companies and a battalion chief. In high value areas response includes a hose tender having a divided hose body and carrying turret nozzles and 3-inch hose.

High static water pressure and large water mains permit use of direct hydrant streams except on multiple alarms. In the high value district, pressures are from 120 to 130 psi. Usual operating procedure calls for a 2½-in. supply line to a water thief supplying 1½-in. lines equipped with Grinnell "flame buster" nozzles.

Night-time response and response to institutions includes one or two additional engines, rescue and salvage companies. However, the reduced daytime response has been so successful that consideration is being given to a reduction of night-time assignments also.

Fire companies perform in-service inspections while on the air. Inspections are scheduled so that at least one engine will respond from quarters on each call.

Over 90 percent of the apparatus in the department was built by American-LaFrance-Foamite Corp. The department also has Ward LaFrance pumpers and a Seagrave aerial ladder is on order.

Kansas City Fire Tests

By Warren Y. Kimball, Manager, NFPA Fire Service Department and Editor of Firemen

THE first series of tests involving use of master fog streams was carried out at Kansas City, Missouri, July 8–9. The fire fighting tests were conducted by the Kansas City Fire Department, headed by Director Francis "Brick" Wornall and Chief Edgar M. Grass, and were observed by the Exploratory Committee on Application of Water (headed by Emmett T. Cox of the Western Actuarial Bureau, Chicago) and some 250 experts on fire protection from 17 states and the District of Columbia.

The Exploratory Committee includes representatives of the Fire Department Instructors' Conference (FDIC); the Fire Service Training Association, which prepares the fire training texts issued by Oklahoma A. & M. College; NFPA; and various fire insurance inspection bureaus and rating associations and fire chiefs.

The fires were in an old 4-story and basement, brick, heavy timbered building on West 6th Street. It was used formerly as a paper warehouse and was located on a site being cleared for a new highway. The building was only 25 feet wide but well over 100 feet deep. Windows and doors at front and rear provided the only openings for attacking the fires. Two vertical openings consisted of a partially enclosed wooden stairway about 40 feet back of the front entrance, and an elevator shaft at the rear of the structure partly enclosed with old boarding and plywood.

(Below) One of the action scenes during the Kansas City fire tests. Aerial ladders were spotted at front and rear of the building for best directing of the large water fog applications. Note steam generated by "fog" attack.

VERY careful preparations had been made by the Kansas City Fire Department and the Exploratory Committee, but normal fire ground procedures were sometimes sacrificed in order to observe the effect of the large fog nozzles on major fires. The fire department assigned Battalion Chiefs Patrick Curran, Harry Grant, George Hillson, Herbert Hughes and Lester Williams to supervise the various fire-fighting positions. Subcommittees were assigned to temperature recording, timing, and measuring of nozzle discharge, structural safety, photographic recording and general observations.

The fire department had loaded each floor with huge piles of discarded furniture averaging 14 lbs. load to each square foot. The combustible material was piled well back from the front of the building and on several floors was shielded by partitions from a frontal attack.

For the initial fires, two American-LaFrance steel aerial ladders were placed at both front and rear, with ladder pipes equipped with Elkhart JN-200 adjustable pattern fog nozzles set for 30° fog cones. (As indicated by "Studies of Fire Department Fog Nozzles," a report of studies conducted by the NFPA Committee on Fire Department Equipment, these nozzles discharge 700 gpm at 100 lbs.) Each ladder pipe was supplied by 3-in. hose supplied by three 2½-in. lines.

Two dozen thermocouples had been carefully spaced and distributed on all floors. Lead wires extended to a canvas pavilion where the recording officials could keep track of the progress of the fire in all areas. A public address system made it possible to keep observers informed. A walkie-talkie radio was used for fire-ground communication.

ORIGINALLY six separate large scale test fires were planned in detail but in practice the committee had to be content with four fires in the building and two large scale flammable liquids fires staged on an adjoining lot.

All fires were started with baled excelsior. Use of flammable liquids in the building was kept to a minimum so as to obtain realistic fire behavior. However, in the later tests it was necessary to use more distillate because the building was wet.

The first blaze was a large cellar fire. The rear of the basement was partly above grade and attack was made with a JN-200 Elkhart nozzle supplied by three lines and directed through a rear wall opening. In seven minutes of preburn the temperature rose to 1550° F. The spread of the fire was quite rapid, no doubt influenced by the extremely combustible contents and the fact that the lower glass was out of the large windows at front and rear on each floor.

The fog jet from the multiversal nozzle was under some disadvantage due to the fact that the stream had to be depressed slightly to play into the basement. Nevertheless, the heat was very quickly reduced and two 2½-in. hand lines equipped with Wornall fog nozzles, discharging 280 gpm each at 100 lbs. nozzle pressure, were ordered into the basement for mop-up.

However, before these big lines could be brought into effective positions in the basement the heat again started to rise rapidly and fire extended toward the front of the building and also started to extend upward. This brought into action a 2½-in. Bresnan distributor on a 3-in. line supplied by two 2½-in. lines controlled by hose clamps. It was placed in service in the front of the basement about 30 ft. inside the building and remained in operation for the duration of the test. A bent-cellar pipe with a Wornall 2½-in. fog nozzle was also operated from a sidewalk coal hole for a few minutes.

The fire burned through the first floor at one point under the huge pile of combustibles, making a

tussle for the crew of a 2½-in. standby line, using a Wornall nozzle on this floor. All crews working inside wore MSA Chemox oxygen generation masks. Exploratory Committee observers timing the application of water inside of the building were likewise required to wear masks.

The official post-mortem or "second guessing" following this fire disclosed three pertinent lessons:

1. The single large 700 gpm fog nozzle reduced the heat in this cellar blaze in a matter of minutes.
2. This heavy stream should have been continued in operation until the hand lines were advanced into effective position to mop-up.
3. All mop-up lines should have consisted of 1½-in. hose with fog nozzles of good capacity because even with the excellent man-power available the 2½-in. lines were too difficult to handle in the intense heat and smoke. This latter opinion was also expressed forcibly by the fire fighters among themselves while struggling in the smoke.

THE second fire was started on the second floor and ladder pipes were positioned to cover second and third floors at front and rear. A 2½-in. standby line with Wornall nozzle was laid up a stairway to just below the second floor.

Just after the fire was lighted there was a series of unpredictable circumstances. A switching engine cut the lines supplying one of the ladder pipes in the rear and an intense traffic jam made it necessary to cut the lines from one of the pumpers at the front so that the ladder pipe streams there became ineffective. Flames shot up the stairway and elevator shaft and involved the top three floors of the building and extended through the roof near the center of the structure. The building was deemed lost and the crew on the inside stairway was ordered out although they were in an excellent position to hit the center of the fire. Chief Grass assumed direct command of the only effective ladder pipe stream at the rear and by operating for a few seconds for each window and from floor to floor was able to bring the fire on all three floor under control after a few minutes. Then 2½-in. lines were advanced over ladders to the front second floor windows and mop-up crews fought their way up the stairs to the top floor. Several times heat and smoke pushed by the ladder pipe at the rear chased the crews to the front windows but the mop-up was completed.

A remarkable demonstration of using an expanded unstable foam occurred when this flammable liquid fire was started. Flames rose above a 4-story building, but fire fighters put out the blaze within four minutes using only water and a wetting agent to make the foam.

The most important lesson of this fire was that control was obtained by fast maneuver of a heavy stream hitting as many hot spots as possible for a few seconds each. If a stream is left too long in one spot it does little good while the heat builds up elsewhere.

Also, the age-old problem of advancing hand-lines in conjunction with heavy streams was again encountered. While the large fog streams did not have the impact danger of large solid streams, they drove heat and smoke toward the other side and made the inside positions of hand-line crews untenable.

It has been agreed generally that the large amount of steam driven by these streams makes it advisable to attack from one side and merely cover exposures from the other.

THE third fire on Thursday, July 8, was started on the fourth floor. After a careful inspection of the building by the Structural Safety Committee, consisting of Chief George McAlpine of Oklahoma City and Chief Ray Tiller of Waterloo, Iowa, it was decided to fight the fire entirely from the outside by means of ladder pipes. The chiefs' predictions proved remarkably accurate for the roof and walls collapsed at points where they had detected weaknesses.

Three ladder pipes were positioned at the rear and one at the front. One of the pipes at the rear was equipped with a solid stream tip in order to reach remote roof areas in the center of the building. This fire soon gained considerable headway and the roof dropped to the third floor at the front of the structure, bulging out an old party wall at the east which caused some apprehension due to the likelihood of sudden collapse. Part of the west wall at the top floor level also fell out before the fire was brought under control with the heavy streams. One additional test fire on the first floor was extinguished by hand-lines the following morning.

Thursday evening a dinner party was held at the Kansas City University Club with Mayor William Kemp and City Manager L. P. Cookingham extending welcome.

The most exciting feature of the Friday morning program was a demonstration by Lee L. Bowman of Dallas, Texas, representing the Unox Company, of controlling flammable liquids fires with wet water. Mr. Bowman used a special aeration attachment made for use on 1½-in. and 2½-in. Elkhart and Wornall fog nozzles and having a pick-up tube whereby 2 per cent Unox wetting agent is introduced into the water making an unstable foam with excellent heat absorption qualities.

Hundreds of gallons of kerosene and "varsol" were poured into a

(*Continued on page 22*)

"What Mutual Aid Really Is"

By Roi B. Woolley, Assistant Editorial Director, "Fire Engineering" Magazine

From an address during the Volunteer Firemen's Forum of the 58th NFPA Annual Meeting in Washington, D. C.

IT is doubtful if any term in fire service nomenclature is so widely — and so loosely used as "mutual aid."

Query almost any fire officer on mutual aid and he'll solemnly swear that his fire department has it. But, reduced to simple fundamentals, usually what he calls "mutual aid" is little more than a "gentlemen's agreement" of fire departments to come to each other's assistance in time of serious emergency.

The intent and purpose are commendable. The heartening publicity given the fire forces which "fly to the aid of their stricken neighbors at the tocsin's call" (as the wayward press puts it), at times convinces the good brothers that they really and truly do have "mutual aid!" In my book, however, mutual aid means more than good intent, willingness and enthusiasm to lend a helping hand when called, — that is if it is to function efficiently in these days of growing fire hazards and stunted fire protection and prevention budgets.

Perhaps the greatest misconception of what we may term "fire service mutual aid" is the belief that mere willingness to help constitutes organized, "efficient mutual aid." It does not. It cannot, any more than sheer zeal can hope to make an efficient volunteer fire department.

Here are some other misconceptions:

1. Too many fire fighters have a wrong interpretation of the *meaning* of mutual aid in fire protection. With some, it is a condescending sort of paper plan, or merely some verbal understanding, which will never actually be required. This is primarily a "Big City" attitude. It is expressed condescendingly by some professional fire fighters who state their willingness to come to the aid of their "lesser neighbors." Of course, they are self-sufficient, and perfectly able to care for any situation that may arise in their bailiwick. The only reason for any "pact," they'll say, is to give moral encouragement to the "little neighbor." Sort of like the recipe for hasenpfeffer: "One elephant and one rabbit."

With some, mutual aid is a one-sided arrangement which will bring all the help needed at any time, but which is reciprocal only when convenient. This attitude is expressed sometimes in the words: "Oh, mutual aid is all right for the other fellow, but it won't work for me!"

2. *Mutual aid is a preventative for all large fires or conflagrations.* Concerning this misconception, let it be said that Fate being what it is, we are always going to have large scale emergencies, conflagrations and disasters. Mutual aid, no matter how systematic and efficient, isn't going to prevent serious fires. It is only going to help control these fires, and keep them from becoming more disastrous and destructive.

At this point it might be well to scan the evidence disclosed by 293 large-loss fires of 1953 (See NFPA Quarterly, Jan. 1954). These are the blazes that represented 24 percent of the nation's total fire loss and the deaths of 336 persons.

Analysis shows that this large loss fire problem confronts the small town as well as the big city. The report points to the necessity for operators of high-value properties in small communities, or outside of incorporated areas, to provide full scale exterior as well as interior fire protection.

In the manufacturing group of large-loss fires, mutual aid went into action in practically all fires in the smaller communities and in not a few of those in the more metropolitan centers.

One thing these fires did show, — the more efficient was the mutual aid response and operations — both on the fire ground, and in protecting areas left open by movement of the local fire forces — the lower the fire loss, and the more efficient was the fire control job.

3. Too many capable fire officers and too many civic authorities are willing to accept a mutual aid program as a substitute for not keeping their own house in a state of efficient preparedness.

To these gentlemen let it be said that mutual aid can be a good reserve, but it can never take the place of having your own ample first-line attacking forces. The experienced fire fighter knows that too much dependance cannot be placed upon the "other fellow," no matter how willing and eager he may be to assist in time of need. He may be having trouble of his own at the same time you need him. He may be temporarily indisposed or have his department at a drill. His Mayor or some other "top brass" may not be inclined to let him go to help another. I have found that even signatures on a mutual aid pact that called for automatic response on call for aid, do not guarantee such response.

4. *The belief that mutual aid is strictly something for the small town or the volunteer fire forces.*

Anyone who conscientiously studies the disaster record of this nation knows the fallacy of this premise. He knows that no city is immune to disaster. When misfortune strikes there can be no sharp distinction between professional and volunteer. In time of disaster it may well be a case of "all hands hang together, or hang separately!"

5. Kindred to the foregoing is the belief that *professional full-time fire fighters can't or won't work along with volunteers in any mutual aid program.* It is natural for the pro' to "look down his nose," a bit at the amateur and not a few mutual aid plans have foundered on this uncharted obstruction. But mutual aid can embrace both groups and they can plan and operate together efficiently and harmoniously. They're doing it in scores of counties in New York, and many other states.

6. The mistaken belief that *all you need for effective mutual aid program is some sort of "pact" or "agreement" in writing.*

Mutual aid isn't self-operating, any more than it is self-sustaining. It takes "blood, toil and sweat." It takes some "sparkplugs" who will see that the plans on paper are right, but even more important, that they function when the crucial moment comes.

7. The fallacies that *you can't train for mutual aid operations; that mutual aid is an "inanimate" sort of thing; that after all, mutual aid is merely fire fighting on a grand scale; that if individual fire departments are well trained, the mutual aid plan will automatically click along without a hitch.*

Training in fire suppression is essential for the individual fire department. It is imperative for the members of a mutual aid plan. And here we put our fingers on one of the most serious weaknesses in the American fire service, according to some: the lack of training in multiple-company-operations.

Mutual aid is nothing more or less than multiple company work. The big city chief is accustomed to punching a key or picking up a radio handset and getting all the help he may need for most emergencies. He is used to multiple company response, and operations.

The small town chief may have to meet a critical situation only once in his short elective term as Chief. He is not expected to be as versed in the technique of calling for aid, or of deploying it on the fireground. That is where his mutual aid system must function for him.

8. *That there is no need of having any centralized, round-the-clock mutual aid supervision and "control," or dispatching service . . . that it isn't the function of mutual aid to "dispatch equipment but merely to pass along requests for aid to the proper parties."*

One might just as well say that there is no need for a fire alarm or communications bureau in a municipal fire department. Just as there must be some head to the mutual aid plan, so there must be some place to seek that authority, from which help can be called and sent. That "Control Center" may be a big city fire alarm bureau, a small town fire-police communications office, a sheriff's office, or even a railroad switchman's shack. It should be the nerve center of the mutual aid system.

9. *"That you cannot operate mutual aid on a broad scale because no fire chief is going to yield any of his authority or his prerogatives to an outsider, no matter how serious the emergency!"*

This misconception has been sired by certain "old-time" self-sufficient fire officers and fanned by some civil defense authorities. It is the thought, not alone of some professional officers, but of the volunteers too, who are afraid that when help comes, somebody is going to "take over" and run their show. It often stems from an inferiority complex and is as human as to want to be boss of your own household.

These are just some of the major misconceptions encountered in our study of mutual aid, past and present. But they should not lead you to believe that no progress is being made to establish organized, systematic efficient mutual aid. Much is being done, notwithstanding these misconceptions and misbeliefs.

There must be organized mutual aid. It is today, and will be tomorrow, our only bulwark against total fire disaster. Of course, it is no palliative for the run-down fire department; it will not take the place of strong, capable local fire protection, or of "gray-matter" under the caps and helmets of local fire officers.

It is particularly needed in these days of decentralization of business and industry, of shifting markets, growing suburban and rural communities. And it is a "must" if we are to take seriously the growing threat of atomic and "H" bomb attack.

Anything less than effective mutual aid won't do. Here are the fundamentals:

1. *Organization and Cooperation.* The component units must become a homogeneous entity, operating in harmony. The organization should embrace the smallest, as well as the biggest fire forces (including private fire brigades). There must be coordination as well as cooperation.

2. *Legal requirements* should be met, such as working agreements and liability compensation for injuries to men and/or apparatus.

3. *Communications* must be adequate for the job — and the area. This means, primarily, two-way radio in every fire department, on every rig and proper centralized supervision.

4. There must be an adequate, up-to-the-minute *inventory* of all equipment and manpower in the mutual aid area, and knowledge of where and how to get it.

5. There must be a *central authority* — preferably an administrative, governing body representing all interests of the fire service within the mutual aid area, and with a pre-determined agreed power to deal with emergency problems. I might add that this should be headed by a "live wire." He need not — in fact should not — be a politician, but a knowledge of politics of the area won't hurt him — if first and last he is a firefighter.

6. Some *financial backing* to cover organization and operating and administrative costs should be provided. The best plan is to have all communities served in the area share in the expense of the plan.

7. The Mutual Aid Plan must be kept alive by training and drills — and I don't mean all "dry runs." I pay credit to the states, the counties and the areas which are daily improving and perfecting their mutual aid plans. Not a few states are organized to function in time of serious emergencies. In New York we are trying every minute to perfect our fire defenses with better mutual aid. Westchester County alone, has the job of alerting and directing County response to the City of New York in the event of enemy attack.

But every other state and county can do likewise.

Remember the old saying: "The strength of the wolf is the pack — the strength of the pack is the wolf."

NFPA No. 616-M

Suggestions on Training Fire Departments for Mutual Aid

10 cents per copy

Write to

National Fire Protection Association
60 Batterymarch Street, Boston 10, Mass.

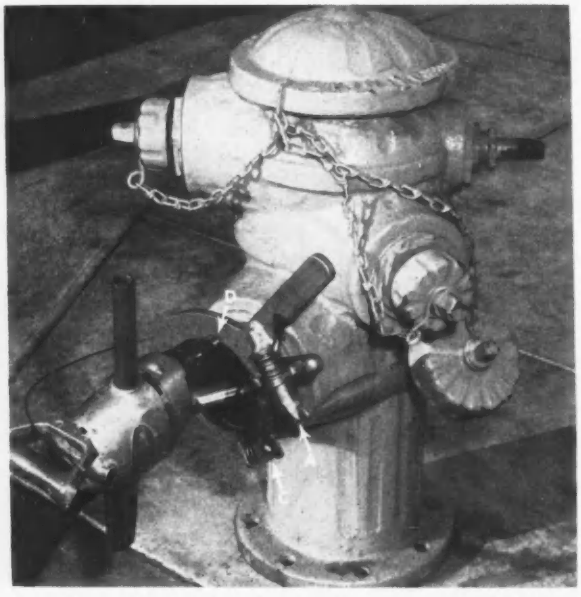
San Diego Uses a "Thread Cutter"

From a report by Chief G. E. Courser, San Diego Fire Department

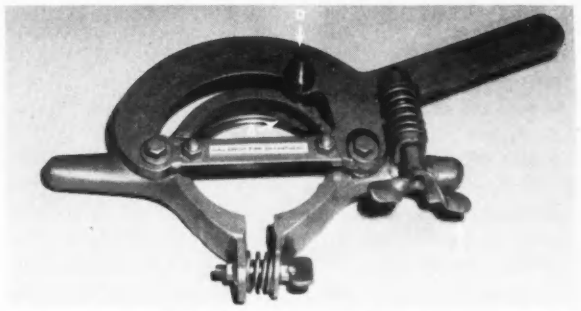
LAST year, fire departments throughout the State of California began to standardize fire hydrant outlets and suction hose couplings to the 4-in. size. The San Diego Fire Department was the first to participate in this program.

During the change-over, a very useful thread cutter was developed by San Diego's Master Mechanic, Battalion Chief Robert Ely, (author of "Make It Easy for the Engine" in October, 1953, FIREMEN). Chief Ely found that when the thread fittings were tapped out of old couplings a partial feather edge remained. This interfered with proper engagement of the "Higbee Cut." (National Standard couplings have outer external and internal threads terminated by the "Higbee Cut," which means that the full outside thread is removed to prevent crossing or mutilation of threads when couplings are engaged.)

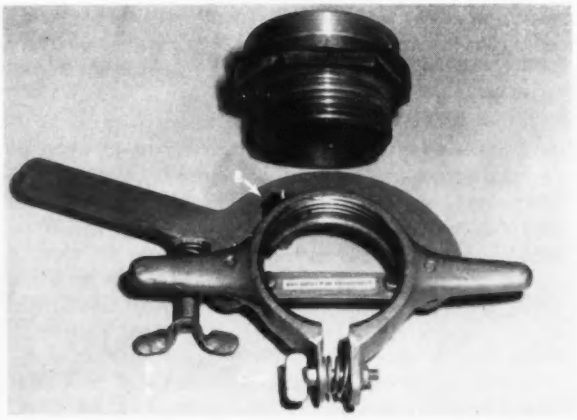
To simplify thread removal he designed the "Ely Thread Cutter" shown in pictures on this page. It cuts the external feather edge threads in male and female couplings without necessitating removal of the couplings from the suction hose, hydrant, fire hose, or any fire department fittings where a "Higbee Cut" is desired. The cutter greatly simplified the standardization work in San Diego and is being used extensively by other fire departments in California who are also standardizing connections.



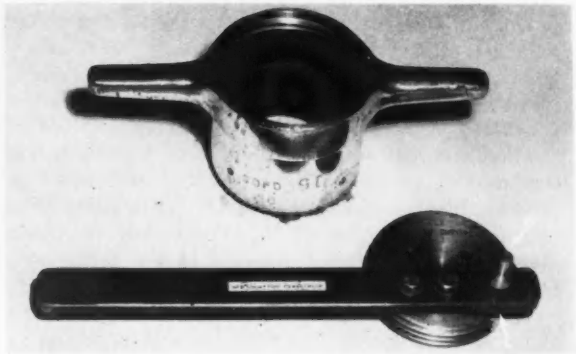
Thread cutter in operation. In using this device on a male hydrant thread, the operator first loosens wing nut "A" which allows the cutter to disengage. Then the thumb screw "C" is loosened so that the entire device may be screwed on the male fitting of the hydrant until it "bottoms." The tool is then backed off one-half turn and the thumb screw "C" is tightened until a slight dragging is felt. Then the tool is once again screwed onto the male thread until it reaches the stops, which have been adjusted so that the Higbee Cut will be started at the proper place.
A ½-inch drill motor is attached to the cutter shank and held in proper alignment. With the motor running, wing nut "A" is tightened against its stop and the cutter is engaged. The device is unscrewed slowly with the motor running until the feather edge is removed.



Here's a closer view of the thread cutter developed by Battalion Chief Robert Ely of the San Diego Fire Department. "A" is the wing nut by which the cutter "B" may be engaged or disengaged. "C" is the thumb screw which permits the tool to be tightened on the male fitting until it fits securely and allows the cutter to be placed properly for thread removal. "D" is the cutter shank which is turned by drill motor.



Rear view of the Ely thread cutter showing a fire hydrant male connection which has had the feather edge thread finished with a Higbee Cut.



Thread cutter and a 4-inch suction hose female coupling. To use the tool for removing the feather edge thread from a female coupling, the ½-inch motor is fastened to a bench, then attached to the cutter shank "D" The cutter handle is allowed to hang down or rest on the work bench. Then the drill motor is started and the female coupling is screwed on slowly until it reaches the stop. The feather edge thread is thus removed by the cutter and the coupling may be unscrewed.

"Y'r' a Ruddy Washout"

Recently a British fireman named Treddles wrote to the editor of "Fire," a fire service magazine published at Chronicle House in London, England. The letter and certain relative information appeared in a recent issue of that magazine. We think that readers of FIREMEN will enjoy Mr. Treddles' listing of events in his rural fire department and the unfortunate plight of the individual who spoke up to a senior officer. (In England, counties and county boroughs are now responsible for maintaining fire services. Through an Act of Parliament in 1947, duties of the National Fire Service were assumed by local fire brigades which have been organized for mutual aid protection between areas and counties.) Here's the editorial.

"THREE months ago I published in this column extracts from a letter sent by a rural part-timer to *Fire* for publication. They told of an accident that befell another part-timer when obeying an order to chase the owls off the roof of the fire station, in the course of which act the heel of the short ladder slipped and he was nearly flung into the appliance 'shed.'

"In asking if he was entitled to compensation for injury and shock he added another query — could he claim compensation for a ricked shoulder caused by his falling over a sleeping cow, on a dark night, while returning to the station across a meadow with a sack of potatoes, for the station mess, on his back? Not being even a legal glimmer on Fire Service causes of action, I refrained from mentioning the two queries in my reply.

"Now comes the sequel. A gentleman, whose calligraphy is of the Ogham school found on tombstones in parts of Wales, and who signs himself 'Joe Treddles, fireman,' has sent me a long letter. Translated, deciphered and decoded, it blames me for having directed official and public attention to this station where the circumambient air will be soon fragrant with apple-blossom from trees that Mr. Treddles and his colleagues duly wassailed.

Mr. Treddles says:

"Soon after the bit about our station appeared in FIRE about half-a-dozen gents, in black coats and hats and striped trousers, turned up at the station just before the local opened in the morning. Some people round here thought they were the War Damage blokes, but as the old hut never got any war damage we thought they were from the county architect's office.

"They examined the gable through which the man you wrote about nearly fell, shook their heads, made some notes, got into their cars and off they went. Nothing happened the next day or the day after; but on the third day another lot of gents turned up, prodded the walls of the station, shook their heads and left for the local.

"Next day. My gawd, an ADO (Assistant Divisional Officer) turned up. Among lots of things he wanted to know was how it came about that one of our men fell over the cow when bringing home the spuds. How did he come by the spuds?

"We could only tell the truth, and that was that the farmer — a decent chap — told us that we could always take a few spuds provided we closed the clamp properly again. But that wouldn't do; two of us had to go with the ADO to the farmer who told him that we had the spuds with his permission.

"The ADO then gave us a test call, and as luck would have it, the fireman who fell over the cow missed the appliance, although he cycled after it and caught it up in about two minutes. After it returned, the ADO gave us a sort of friendly chat in which he said that while we were doing well he thought we could do better if we tried."

"APPARENTLY this observation aroused the sturdy spirit of the man who cycled and overtook the appliance, because, according to Mr. Treddles, this man, during the discussion after the address, said that if they had a better appliance they could put out thatched roof fires before they reached the basement. Says Mr. Treddles: —

"The man told the ADO that any tractor in the district could cover the ground better than our appliance, and that it was dangerous for any fireman to ride on the rear part of the machine because he might be squashed to jelly by an overtaking lorry. This caused the ADO to look straight down on his nose at the man, then turn on his heel and give the 'dismiss.'

"All of us thought that the ADO would see that we got an appliance with an engine of more than 100 candle-power. Judge of our surprise on next drill night when the sub-officer tells the man who answered back that he need not fall in but must wait until after drill.

"He did, and then, the sub-officer told him that in the opinion of headquarters he was not likely to become an efficient fireman! All this after being a part-timer in our market town before the war, in the AFS during the war, and in the county brigade since there was one."

"According to Chronicler Treddles, the detachment passed a vote of sympathy with the unfortunate man, got up a subscription for him, part of which is to buy him a suitable medal when prices fall a bit.

"His case has cast a sort of blight on the village; none of the lads will take his place and we now ride a man short" continues Mr. Treddles.

"The victim has decided to give his complete attention to his job — handy man, and work with a light van — and says he is doing better now than he did when he was in the fire brigade.

"All the same, we could do with him back again. He did much to keep the station standing upright as much as possible. One side of it is beginning to lean outwards very badly; the opposite side seems to be caving in; and the owls have left the roof, so its chances don't look too rosy.

"If you can do anything to help us to get a station that is not suffering from 'kollhapsitus,' and a decent watertender like the Kent one you show in your paper, you will be deserving of a medal bigger than the one we are going to give to our late member, whose phiz no longer fits the helmet.

"If you can't, all we can say is that you are a ruddy washout. Yours very respectfully, Joe Treddles, fireman."

Kansas City, Kansas, July 7. *(Photo by Kenneth M. Co., Kansas City Police Department.)* **Four persons were killed and 11 injured when an F-84 jet Air Force plane crashed and burned in this area. Eight pumpers, 3 ladder trucks and a crash truck from Fairfax Airport responded. Fire fighters stopped exposure fires with eight 4½-in. lines and 4 booster lines.**

Making a Good Job of It

by

Warren Y. Kimball

Flow Rated Nozzle Tips

IN FIREMEN for October, 1952, we suggested that nozzle tips be flow rated to provide 175, 250, 350, 500, 700, and 1000 gpm at recommended nozzle pressures. Selecting such flow rated tips eliminates a lot of mongrel tip sizes and, what is more important, vastly simplifies fireground hydraulic calculations. The flows suggested conform to the discharge of standard fire department pumpers operating both at pressure and volume.

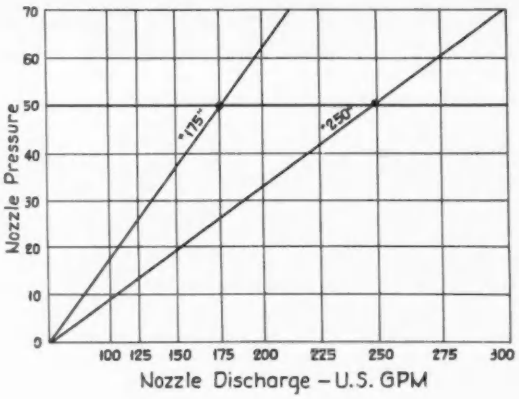
A set of such standard flow rated nozzle tips, furnished through the courtesy of the Akron Brass Company of Wooster, Ohio, was demonstrated during the 1954 Fire Department Instructors' Conference at Memphis, Tennessee.

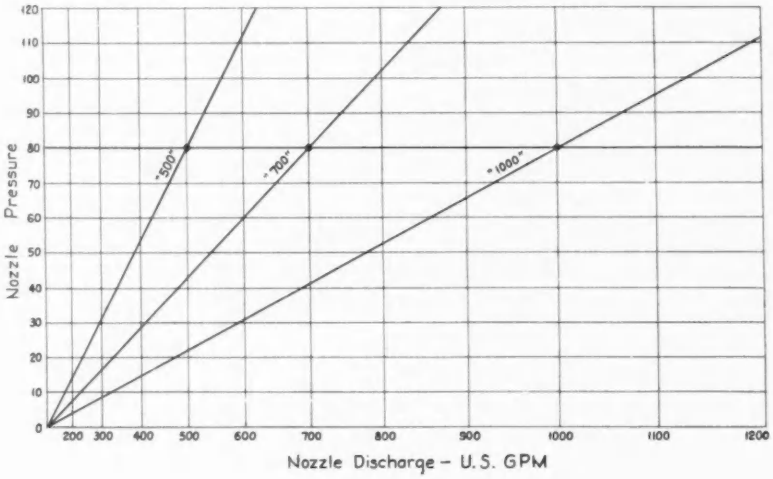
The idea of having nozzle tips flow rated has been welcomed and encouraged by fire chiefs and fire department instructors. Experience has also shown that these nozzle tips are a valuable aid to fire departments in measuring flows from hydrants and in checking fire stream flows during training exercises.

It may be recalled that the 175, 250 and 350 gpm tips for hand lines are rated at 50 lbs. nozzle pressure. The 500, 700 and 100 gpm tips are rated for 80 lbs. nozzle pressure.

Discharge of Flow Rated Nozzle Tips

Comparisons of the flows which may be obtained from the flow rated tips are clearly illustrated on these graphs plotted on 1.85 paper according to the Hazen and Williams formula. At right is the graph for hand line tips of 175 and 250 gpm capacity. Below are represented the discharges of the heavier stream tips of 500, 700 and 1000 gpm capacities.





However, it may be desirable to know the flows from these tips at other pressures. These greater or lesser flows may be determined by

These three tables show the approximate flows which may be obtained from the flow rated tips when operated at different pressures. Note in Table III at right how calculations may be simplified by using round numbers. These figures are close enough to provide satisfactory estimates on the fireground.

Table I Discharge of Flow Rated Nozzle Tips at Various Pressures

N. P.	Sq. Rt. N. P.	175 Tip x 24.8	250 Tip x 35.5	350 Tip x 49.5	500 Tip x 55.8	700 Tip x 78.2	1000 Tip x 111.5
		GPM	GPM	GPM	GPM	GPM	GPM
30	5.477	136	195	271	306	431	610
40	6.324	157	225	313	353	497	705
50	7.071	175	250	350	394	556	788
60	7.746	192	275	383	433	610	863
70	8.366	207	297	414	466	658	932
80	8.944	222	318	442	500	700	1000
90	9.487	235	337	469	529	746	1052
100	10.00	248	355	495	558	782	1115
110	10.49	260	372	520	585	827	1168
120	10.95	271	389	545	611	862	1220
130	11.40	282	405	570	636	898	1270
140	11.83	293	420	595	660	933	1320
150	12.25	303	435	606	683	965	1365

Table II Discharge Calculations — Flow Rated Nozzle Tips

N.P.	Sq. Rt. N.P. (approx.)	175 Tip x 24.8 GPM	250 Tip x 35.5 GPM	350 Tip x 49.5 GPM	500 Tip x 55.8 GPM	700 Tip x 78.2 GPM	1000 Tip x 111.5 GPM
36	6	149	213	297	334	469	669
42	6.5	161	231	322	362	508	725
49	7	174	249	347	390	546	780
56	7.5	186	266	372	419	586	836
64	8	198	284	396	445	625	892
72	8.5	211	302	421	474	664	947
81	9.	223	320	446	502	703	1003
90	9.5	236	337	471	530	742	1058
100	10	248	355	495	558	781	1115
110	10.5	260	373	520	585	820	1170
121	11	272	391	545	614	859	1227
132	11.5	285	409	570	641	896	1282
144	12.	298	427	595	670	935	1339

Table III Approximate Flows — Flow Rated Tips

N.P.	Sq. Rt. N.P.	GPM "175" Tip Actual x 24.8	GPM "175" Tip Approx. x 25	GPM "250" Tip Actual x 35.5	GPM "250" Tip Approx. x 35	GPM "350" Tip Actual x 49.5	GPM "350" Tip Approx. 50
36	6	149	150	213	210	297	300
49	7	174	175	249	245	347	350
64	8	198	200	284	280	396	400
81	9	223	225	320	315	446	450
100	10	248	250	355	350	495	500
121	11	272	275	391	385	545	550
144	12	297	300	427	420	595	600

1954 National FPW Slogan:

"LET'S GROW UP - - NOT BURN UP"

from Nashville, Tenn.,
1953 FPW Contest Entry

WHAT'S YOUR IDEA FOR '55? (see VI inside)

OFFICIAL ENTRY BLANK

Municipal

1954 FIRE PREVENTION WEEK Contest

Sponsored by the

FIRE PREVENTION AND CLEAN-UP CAMPAIGN COMMITTEE
of the NATIONAL FIRE PROTECTION ASSOCIATION

City/Town _____ State/Province _____ Population Class (see back page) _____

(PRINT OR TYPE)

Date .....

Organization .....
(print or type)

Street Address ..... Zone No. .....

★ ★

This is your report about your Fire Prevention Week activity. Fill it out as completely as possible and return with supplemental material (see back page) to Robert W. Schuette, Secretary, Fire Prevention and Clean-up Campaign Committee, National Fire Protection Association, 60 Batterymarch Street, Boston 10, Mass., *by November* 30, 1954.

Canadian Entries should be returned to your Provincial Fire Marshal or Fire Commissioner.

Municipal

Date.....19...

City/Town ..... State/Province ..... Pop. class.....
(see back page)

Is Fire Department (check one) paid..... partly paid ..... volunteer?.....

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

I INSPECTIONS MADE BY FIRE DEPARTMENT DURING FIRE PREVENTION WEEK

1. Number of FPW inspections made in dwellings .....factories.....stores.....hospitals and institutions.....hotels.....schools.....rooming houses.....
2. What attempt is made to "sell" fire prevention during inspection (by leaving printed material, prepared talk, etc.)? .....
.....
3. How are inspections followed up? .....
.....

II FIRE PREVENTION WEEK YOUTH AND SCHOOL ACTIVITIES

1. In what grades is fire prevention taught in schools? .....
2. If there were FPW poster projects, how many participants? .....
3. If there were FPW essay projects, how many participants? .....
4. How many home inspection blanks distributed? .....
5. In how many schools were fire drills conducted? .....
6. Briefly summarize activities of local youth groups such as Boy, Girl Scouts, 4-H, Jr. Fire Departments, etc...
.....
.....
.....
7. Number of Boy Scouts completing Firemanship course.....Number of Girl Scouts completing Home Health & Safety course.....Number of Camp Fire Girls winning Citizenship Honors in Fire Prevention .....

III COMMERCE, INDUSTRY AND CIVIC COOPERATION

1. Number of fire prevention addresses to service, civic clubs or other organizations.....
2. If there was an FPW parade, describe it.....
3. Number of window displays in stores, offices, etc.....
4. Column inches of FPW text in local house organs.....
5. How many local vehicles (city trucks, transit cos., etc.) displayed FPW banners?.....
6. FPW contests (poster, slogan, letter, etc.) conducted by local business and industrial groups? .....
7. How many employers scheduled regular FPW observance?.....

8. How many local advertisers made mention of FPW in newspaper advertising? .....magazine advertising?.....radio and TV advertising? .....

9. How many demonstrations by local industrial fire brigades? .....

10. Civil Defense FPW activities? .....

11. Any novel promotions by local commerce and industry? (Describe briefly).....

.....

.....

IV FIRE PREVENTION WEEK PUBLICITY

1. Did Mayor or City Manager issue Fire Prevention Week proclamation?.....

2. Column inches FPW material in all local papers: editorial page.....general newscoverage.....

3. Total amount of time devoted to fire prevention by local radio and TV stations during Fire Prevention Week.....Number of spot announcements.....Number of station breaks?.....

4. Special television features? (Describe length and type) .....

5. How many churches announced Fire Prevention Week from the pulpit? .....

6. How many posters displayed?.....Leaflets distributed?.....Stickers distributed?.....

7. Any novel FPW publicity devices (Describe briefly).....

.....

V RESULTS

1. Briefly describe effort made to consolidate FPW gains into year-round program.....

.....

.....

2. Fire Record — comparative weekly averages:

	No. of Fires
Average number of fires per week, latest full calendar year	.....
Number of fires during FPW this year	.....

VI YOUR SUGGESTION FOR NEXT YEAR'S NATIONAL FPW SLOGAN

.....

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

Name of entrant .....

Title .....

Organization .....

Address .....

Do you want entry returned? .....

General Information

HISTORY OF FIRE PREVENTION WEEK

Traditionally Fire Prevention Week each year is the full calendar week including October 9, anniversary of the Great Chicago Fire of 1871. It is observed at the same time in the United States and Canada by proclamation of the President of the United States and the Governor-General of Canada.

Fire Prevention Day was inaugurated and first observed throughout the United States on October 9, 1911. It began when the Fire Marshal's Association of North America (now a section of the NFPA) suggested that the Fortieth Anniversary of the Great Chicago Fire be set apart for bringing before the public the much-needed lesson of fire prevention. In August 1916 the National Fire Protection Association Committee on Fire Prevention Day was formed. In 1920, Mr. T. Alfred Fleming of the National Board of Fire Underwriters was made chairman of this NFPA Committee and succeeded in persuading President Wilson to issue the first National Fire Prevention Day Proclamation. It was not until 1922 that the whole week containing Fire Prevention Day (October 9) was officially proclaimed "Fire Prevention Week" by President Harding. Mr. Fleming served as Chairman of the Committee (now the Fire Prevention and Clean-up Campaign Committee) until 1951. This period of thirty years of devoted and effective service is recognized as the greatest single contribution to the promotion of Fire Prevention Week.

PURPOSE OF FIRE PREVENTION WEEK CONTEST

The contest stimulates competition and encourages the use of Fire Prevention Week as a "springboard" for year-round fire prevention programs. It is judged solely on the basis of each entrant's sincerity and completeness in promoting Fire Prevention Week.

ENTRY DIVISIONS

There are three general divisions in this contest.

MUNICIPAL (Red Blank)

Any city or town in the United States and Canada may enter this division.

UNITED STATES cities and towns are divided into these seven classes:

Class I —— 500,000 population and over
Class II —— 250,000 to 499,000 population
Class III —— 100,000 to 249,000 population
Class IV —— 50,000 to 99,000 population
Class V —— 20,000 to 49,000 population
Class VI —— 5,000 to 19,000 population
Class VII —— Under 5,000 population

Competition is within each population class in the nation as a whole and within each state regardless of population class.

CANADIAN cities and towns are divided into these six classes:

Class A —— 100,000 population and over
Class B —— 25,000 to 99,000 population
Class C —— 10,000 to 24,000 population
Class D —— 5,000 to 9,000 population
Class E —— 2,500 to 4,000 population
Class F —— Under 2,500 population

Competition is within each population class within each province except the first fifty winners and the Grand Award winner which are chosen from all Canadian entries regardless of population class.

Two Grand Award winners are picked from all municipal entrants each year — one in the United States and one in Canada. The fifty best entries from each country will be listed in order of score.

GOVERNMENT (Blue Blank)

This division is open to all agencies and service installations of the U. S. Government. This will include the Air Force, Army, Navy, Coast Guard and such installations as are maintained by the Veterans Administration, Atomic Energy Commission, etc. (Atomic Energy communities which now are separate municipalities should enter the contest under "MUNICIPAL".) Competition is within separate agency and service classifications, and is based upon year-around fire prevention activities.

INDUSTRIAL (Green Blank)

This division is open to all industrial plants in the United States and Canada. Contest emphasis is on year-around fire prevention activities.

ENTRY REQUIREMENTS

Answer all questions completely. Back up your answers with as much material as possible. This to include reports, letters of explanation, photographs, newspaper clippings and other appropriate material — following the order of the questions. Put your best foot forward. Include everything that will show the judges how much you did and how well you did it.

ENTRIES MUST BE IN THE NFPA OFFICE BY NOVEMBER 30, 1954 — SEND TO:

★ ★

Robert W. Schuette, Secretary
Fire Prevention and Clean-Up Campaign Committee
National Fire Protection Association
60 Batterymarch Street
Boston 10, Massachusetts

★ ★

Use convenient NFPA shipping labels enclosed. Send for more labels if you need them.

In Canada send your entry to your Provincial Fire Marshal or Fire Commissioner.

multiplying the square root of the nozzle pressure by the following factors:

Nozzle Tip Rating (GPM)	Factor
175	24.8
250	35.5
350	49.5
500	55.8
700	78.2
1000	111.5

Table I shows flows (fresh water) for the six flow rated tips as calculated from the above formula. These should be sufficiently accurate for fire department purposes. For example, if we have only 30 lbs. on a 250 gpm flow rated tip the flow is 195 gpm ($35.5 \times \sqrt{30}$). If we have 60 lbs. on a 175 gpm flow rated tip, the flow is 192 gpm ($24.8 \times \sqrt{60}$).

Table II has been prepared to show how volume may be determined by using the square roots of 36, 49, 64, 81, and 100 lb. nozzle pressures. From these other flows may be interpolated.

Actually, calculation may be further simplified by using round numbers for the nozzle factors. Table III shows how flows may be determined for the hand line tips by multiplying the square root of NP by 25, 35, 94 50 to find approximate flows from 175, 250 and 350 tips.

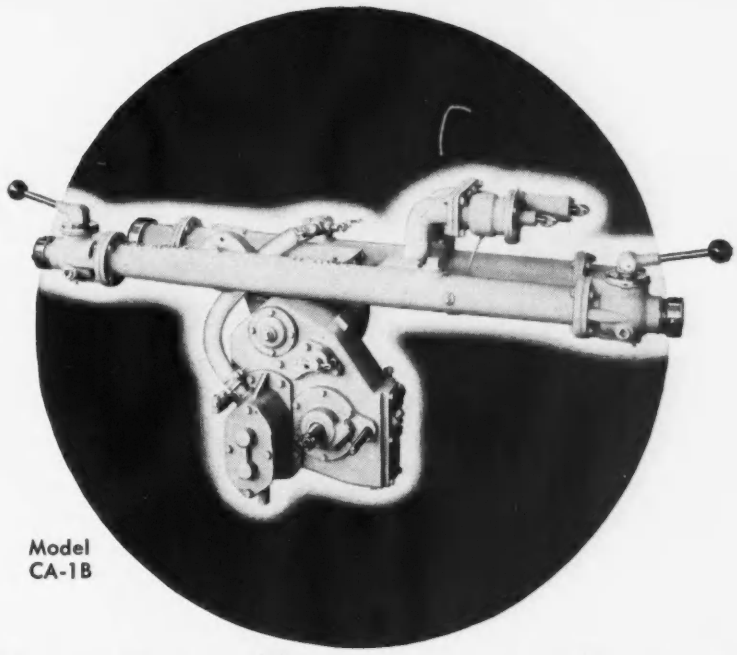
The two straight line graphs logged on 1.85 paper make it possible to find flows at various pressures by visual examination.

NFPA Regional Meeting

ANOTHER regional meeting of the NFPA is scheduled to be held in Seattle, Washington, September 20–22. The meeting will be open to fire department members and all other persons interested in fire protection. A tentative program was published in the July-August issue of NFPA *Fire News*.

In addition to the General Sessions which will be held on each of the three days there will be special sessions devoted to Flammable Liquids and Chemicals, Structural Fire Safety, Combustible Metals and Dusts, Gas and Heating Hazards, Electrical Fire Safety and the National Electrical Code, and Aviation Fire Hazards.

Conference Headquarters will be at the Olympic Hotel. Reservations may be obtained by writing to that hotel and stating that you plan to attend the NFPA meeting.



Model CA-1B

Waterous offers new single-stage 500 GPM centrifugal fire pump

● Here's the first picture of the new WATEROUS CA-1B fire pump, a single-stage 500 GPM Class A centrifugal.

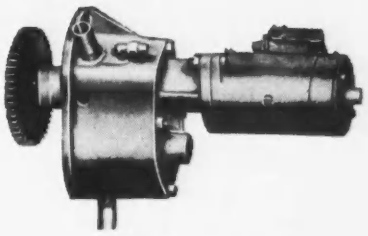
The CA-1B may be equipped with either a gear-driven or electrically driven rotary-primer; it can also be furnished with tachometer drive. Valves, relief valve and other fittings are of standard WATEROUS high quality.

This important new pump also offers an improved, quiet-running transmission in which gear case "drop" has been increased; also an improved drive-line coupling.

Another important feature of the CA-1B is its simple design. The number of joints and connections has been reduced to eliminate many of the points where leakage may occur. The CA-1B is a compact pump which can be mounted low on the chassis.

As in all WATEROUS centrifugal pumps, ball bearings are used for both the impeller shaft and gears. The impeller shaft bearings run in *oil* and are completely protected from water by stuffing box, flinger ring and a special bearing seal.

From suction to discharge, the new CA-1B is built with the same high-quality materials and careful workmanship which have made WATEROUS pumps famous for long life and dependability since 1886. Gears, bearings, and shafts are considerably oversize for a pump with this rated capacity.



WATEROUS Model HGE-281 Electric Primer available with new CA-1B as optional equipment.

For further information regarding the new CA-1B or the complete line of WATEROUS fire pumps (100 to 2000 GPM) write the WATEROUS Company, 42 Fillmore Avenue, St. Paul, Minn.

MEMBER FAM FIRE APPARATUS MANUFACTURERS ASSOCIATION

Waterous
DEPENDABLE PUMPS
SINCE 1886

Fires in the News

Oklahoma City, Oklahoma, June 16. Fire started in an overheated refrigeration system motor and spread undetected through this 22,000 sq. ft. 2-story wooden building on the campus of Oklahoma City University. A 1-story laundry was also destroyed as a 20 mph wind helped fire spread. Loss was estimated at $713,000.

Lockport, New York, June 4. Fire made considerable headway in 1- and 4-story paper container warehouses before discovery by a watchman. Responding fire fighters pumped into sprinkler fire department connection of one building but then had to use all available water to protect exposures. Loss was estimated at $250,000.

Idaho Falls, Idaho, June 25. An explosion started fire in this 2-story brick, wood framed meat and produce warehouse. Flames spread through horizontal and vertical openings and fire fighters could not prevent an estimated total loss of $500,000.

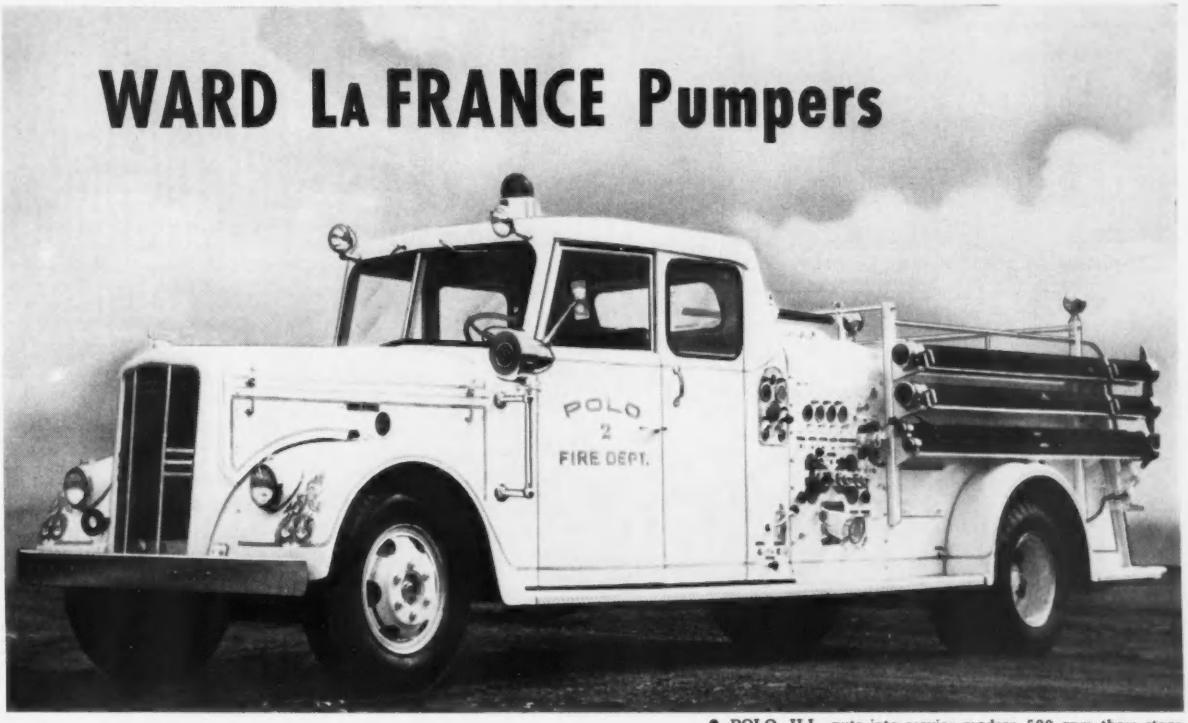
Oneonta, New York, June 5. (*Photo by The Oneonta Star*). Fire loss of $400,000 was estimated when the Butt's Building in Oneonta was destroyed. Mutual aid of Otsego County brought assistance of fire departments from Otsego, Milford and Schenevus.

(*Right*) **Charlotte, North Carolina, June 24.** (*Photo by Kugler's Photolab*). Eleven volunteer fire departments aided Charlotte fire fighters when fire destroyed the Southern Railway's freight station. Charlotte's Fire Chief Donald S. Charles discovered the fire and radioed for a general alarm response almost immediately. Rapid spread of flames through extensive horizontal areas resulted in an estimated total loss of $400,000.

(*Below*) **Chicago, Illinois, June 18.** (*Wide World Photo*). A 5-story meat processing warehouse was destroyed when fire started with an explosion on the first floor. The resultant 5-alarm fire nearly involved a building containing large quantities of chemicals and alcohol but protection was afforded by a fire wall. Loss was estimated at $500,000.

(*Below*) **Winnipeg, Manitoba, June 8.** (*United Press Photo*). Winds exceeding 70 mph helped to create the greatest fire in Winnipeg history when 3 buildings were destroyed and 10 others damaged for an estimated loss of $2,000,000. About 300 fire fighters and more than 40 pieces of apparatus fought the conflagration. At one time flames crossed a 60-ft. street to involve exposures.

WARD LA FRANCE Pumpers



● POLO, ILL. puts into service modern 500 gpm three stage pumper for volume and high pressures. Model 59T, it has a five-man, fully-enclosed cab.

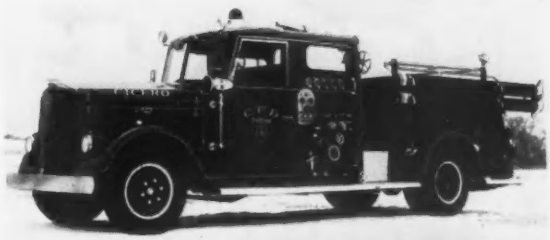
...selected by 3 Illinois cities

These Ward LaFrance Pumpers are the latest additions to the Polo, Cicero and Elgin, Ill. fire departments. Like so many communities, these "prairie state" cities called on Ward LaFrance for new fire-fighting equipment.

Why? Because Ward LaFrance has earned a reputation for building only the finest apparatus. For over 35 years, Ward LaFrance equipment has demonstrated its ability to operate under the most severe fire-fighting conditions.

CALL ON WARD LA FRANCE when your community is ready to bring its fire department up-to-date. Let the Ward LaFrance representative in your area help select the equipment that meets your requirements.

Mid-Western Representative:
M. J. Dalton
140 East Station St.
Barrington, Ill.



● CICERO, ILL. selects two Model 110T pumpers. Both models pump 1000 gpm, have a seven-man canopy, 200 H.P.

● ELGIN, ILL. adds 1000 gpm pumper. Model 130T, it has a 260 H.P. engine.

WARD LaFRANCE
TRUCK CORPORATION

Fire Apparatus Manufacturers for over 35 Years

GENERAL OFFICE & FACTORY: Grand Central Avenue
Elmira, N.Y. Tel. 3-5631

DIRECT FACTORY BRANCH: 139th Street & Bruckner Blvd.,
New York 54, N.Y.
Tel. CYpress 2-3300

EXPORT: Ward LaFrance International, Inc.,
Elmira, N.Y., U.S.A.
Cable Address: "Wardtruck"

BETTER HOSE CARE - WITH
CIRCUL-AIR
THE AIR CONDITIONING
FIRE HOSE DRYER

Circul-Air is the patented, electrically operated hose dryer which circulates prewarmed fresh air through coiled wet hose at the rate of 5 to 6 air changes per minute. It's designed to lengthen hose life, improve the appearance and functional design of new fire houses, and to save floor space and hard work. No other drying method is so fast — so economical — so easy to use.

Circul-Air Dryers have passed the Approvals Tests and are listed by the Underwriters' Laboratories, Inc., Chicago and the Canadian Standards Association.

Write for Catalog TODAY

THE CIRCUL-AIR CORPORATION
575 East Milwaukee Detroit 2, Michigan

FOR QUICK ACTION...
POWERFUL FOG SPRAY
with NEW CHAMPION

Here's a portable fog-type extinguisher for stopping fires quickly before they spread. It consists of a 5-gal. galvanized steel tank with powerful trombone slide-action pump and brass nozzle adjustable from a fog spray to stream. Can be carried as a knapsack or by its handle. 4-ft. hose attaches at top of tank, prevents water from running out when pump is below bottom of tank. Quality-built by manufacturer of dependable spraying equipment since 1915. For complete details and outstanding features of this new Champion . . .

Write today for literature.

CHAMPION SPRAYER CO.
Mfr. Portable Sprayers and Dusters
6503 HEINTZ AVE. • DETROIT 11, MICH.

A Year Without Fire Loss!

(Left) Members of the Fircrest, Washington, Volunteer Fire Department. Chief Oren Satterlee is seventh from the left in the standing row. Truck on left is the 500 gpm pumper on Ford chassis, while original piece of apparatus is the Chevrolet truck at right.

CAN your town get through a year without monetary fire loss? Can the troublesome dry months pass without a single alarm calling fire fighters to an irritating brush fire?

Fircrest, Washington, a town adjacent to Tacoma, achieved such a fire-less year in 1953. According to a report by Fireman Howard W. Lynn of the Fircrest Volunteer Fire Department, only 7 alarms were received during all of last year, with no tangible monetary loss resulting. Two alarms were for flue fires in "properly lined chimneys"; 1 was for a cigarette smoldering in a pile of sawdust; 1 for a small grass fire in a vacant lot; and 3 were false alarms.

The Department protects a community of approximately 2,400 population. The town has several large stores, a school, two churches, some small industries and a good-sized manufacturing plant. Outlying districts include considerable brush and wooded areas.

Last year's excellent fire prevention record is attributed by the Department to the town's citizens who respected privileges of brush burning permits. Not one brush fire got beyond control and necessitated response of fire apparatus.

Fireman Davis and First Aid Chief Whetsell give oxygen to smoke victim.

The Fircrest Volunteer Fire Department is headed by Chief Oren Satterlee and has 19 other volunteer fire fighters. It was organized in 1942 when members built their first piece of apparatus on the chassis of a Chevrolet "pickup truck." Since then, the Department has acquired a two-stall fire station and in 1950, a 500 gpm pumper mounted on a Ford chassis, with a 500 gallon tank, and carrying 500 ft. of 2½-in. hose and 500 ft. of 1½-in. hose. Equipment includes a resuscitator, two Chemox masks, a Scott Air-Pak, a chain saw and other rescue equipment.

Members of the Department have been trained to operate special First Aid and Rescue squads. Fire training drills are conducted twice a month. For daily fire duty enough volunteers work within Fircrest to form an 8 or 10-man crew with an assistant chief and two captains available for response to alarms.

Fircrest's volunteer fire fighters are proud of their few "runs" for last year. Fireman Lynn wants to know if other towns of comparable size can report such success in fire prevention.

The May issue of FIREMEN magazine reported that Hoven, South Dakota (population about 400), had recently experienced its first fire in 880 days. Another South Dakota town, Ethan (population about 300), has completed 1,632 days without a fire in the town. But so far, Fircrest is the only town of more than 2,000 population which reported a fire-loss-less year.

True, Lady Luck plays a part in such accomplishments, but certainly such extended periods of fire safety indicate that fire consciousness has been impressed upon citizens of these communities.

Rockwood FogFOAM SpotPROTECTION System automatically drenches loading platform.

How to muzzle a vicious fire hazard

Dangerous, small-area fire hazards can viciously destroy life and nearby property — if not properly protected.

The tank truck loading platform above, for instance, imperils not only the tank trucks being loaded but also the storage tanks in back of it. Should a truck connection break during loading causing a static spark thus igniting a truck, millions of gallons of gasoline would go up in flames.

A Rockwood SpotPROTECTION FogFOAM System keeps this hazard muzzled — goes into action within 5 seconds of a fire's start. It cools entire area, blankets platform, controls fire, and protects surrounding area within minutes.

Each Rockwood SpotPROTECTION System is custom engineered to meet individual requirements of hazard. Systems handle WaterFOG, FogFOAM, FOAM or "WET". Three sizes: 2, 4 or 6 Heads. Operated automatically or manually. Automatic operations are for fixed temperature sprinkler type fire detectors or for heat actuated devices. Special Systems also available for use with Rockwood FOAM Maker Chambers.

Find out how these SpotPROTECTION Systems can meet your needs. Mail coupon below.

ROCKWOOD SPRINKLER COMPANY

Engineers Water . . . to Cut Fire Losses

Rockwood Foam, available in 5-gallon cans or 50-gallon drums, keeps Rockwood FOAM and Rockwood FogFOAM SpotPROTECTION Systems constantly replenished. No replacement problem.

Rockwood "Wet", available in 5 gallon cans or 50 gallon drums, increases penetration and extinguishing power of water. Excellent where fire is deep-seated or water scarce.

SEND FOR THIS INFORMATIVE BOOKLET

ROCKWOOD SPRINKLER COMPANY
Portable Fire Protection Division
288 Harlow Street
Worcester 5, Mass.

Please send me your engineering data sheet on Rockwood SpotPROTECTION Systems.

*Name*_____

*Title*_____

*Company*_____

*Street*_____

*City*_____

*Zone*_____ *State*_____

Kansas City Fire Tests

(*Continued from page 11*)

large excavation on West 6th Street, Kansas City, where buildings had been demolished. The surface area involved in fire approached 10,000 square feet. Flames rose above the adjoining four-story building where fire tests were conducted and billowing smoke ascended for hundreds of feet. The heat drove the observers back across the wide street but in a maximum of four minutes in each of two tests the fires had been completely extinguished to the amazement of experienced fire fighters present. Mr. Bowman who, aided by Kansas City fire fighters, made the remarkable "stops" confessed later that he was under considerable disadvantage because some of his equipment had been buried under falling bricks from the previous building fires and because he did not have water enough to properly supply both 1½-in. and 2½-in. lines he was using simultaneously.

While the fires were touched off with gasoline, the unstable foam made with aerated wet water is intended for use in extinguishing high flash point flammable liquids, such as kerosene. With low flash point liquids, like gasoline, this agent greatly reduces heat while foam and other Class B extinguishing agents are applied. The largest of the fires required 6 gallons of Unox.

Fire fighters at left apply "wet" water to one of the Kansas City flammable liquids test fires. The largest of the test fires required 6 gallons of "Unox" for extinguishment.

Symbol of Quality-Service-Protection for the modern firefighter

The famous Midwestern Manufacturing Company trademark is your guide to the finest protective clothing that money can buy — garments that are specifically designed to help safeguard your men's life on every run — enable them to use their equipment to the fullest advantage.

★ Exclusive Safety Features
★ Tailored for Comfort
★ Softer, More Pliable Materials
★ Made of Natural Rubber

We manufacture both rubber and fabric fire coats. In our vast selection of materials you will find the type of fabric exactly suited to your climate and needs. For complete information on our full line of firemen's protective clothing, see your Midwestern dealer. A letter to the factory will also bring you literature and material samples for your inspection.

MIDWESTERN MFG. CO., Mackinaw, Illinois
Manufacturers of the Famous MACKINAW Coats

Arkansas Training

DURING the first six months of 1954 a total of 2,121 firemen from 211 departments participated in training classes conducted by the Arkansas Vocational Education Division. Under the direction of J. C. Ruppert, Supervisor of Trade and Industrial Education, State Fire Instructors W. A. Turner and Whit Murphy established a program recommended by a 15-member Advisory Committee on Firemen's Training.

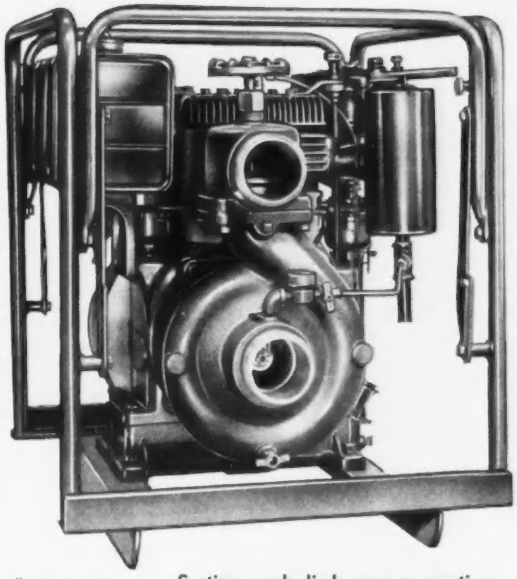
During the 6-month period six 2-week schools were completed with 900 firemen receiving credit toward their Arkansas State Fire College diplomas. Special 3-hour night classes were conducted, sometimes for two successive nights.

Altogether 12 regional classes are planned for 1954. Locations have been selected so that few departments will have to travel more than 50 miles in order to participate in the training.

State Fire Instructors Turner and Murphy also assisted with the organization or reorganization of 18 fire departments and gave an introductory course in firemanship to more than 300 men.

CHAMPION Portable Fire Pumpers

Unexcelled for Performance and Stamina



$315

Suction and discharge connections, straight iron pipe thread standard; special threads at extra charge.

Engineered for Fire Fighting

Model No. 8AE — Weight 171 lbs. Dimensions: Width 20 inches, length 21 inches, height 21 inches.

Pump — Champion Centrifugal. Discharge outlets 2½-inch and 1½-inch iron pipe thread. Suction inlet 2½-inch iron pipe thread. Shutoff gate valve on the discharge outlets. Primes automatically.

Engine — 8 Horsepower Briggs and Stratton gasoline engine, 4 cycle, air cooled. Gas tank capacity 1½ gallons. Enough gas to operate the engine under full load for 1¾ to 2 hours.

Check CHAMPION *Performance Before You Buy*

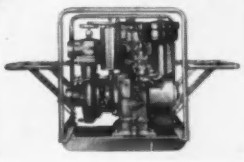
ACTUAL TEST — MODEL NO. 8AE

GALLONS PER MINUTE	GALLONS PER HOUR	TOTAL PUMP PRESSURE, POUNDS
150	9000	58
175	10500	55
200	12000	50
250	15000	40

Trial Test A Champion for 30 Days Before You Buy Any Portable Pumper

If your Department is planning the purchase of a Portable Pumper, you will want to consider our offer to let you try before you buy. You can order a Portable Pumper from us with the understanding that you have the privilege for 30 days (without any expense or obligation to purchase) of making any tests to prove Champion superior performance to yourselves.

If the Champion Centrifugal does not come through every test with flying colors you can ship it back and we'll pay the freight both ways. We welcome competitive tests — test a Champion alongside any other pumper of same capacity. That is, if you can find another manufacturer willing to ship a Portable Pumper on trial.



Collapsible handles in extended position for convenient and safe carry by 2 men.

CARRY A PORTABLE PUMPER ON YOUR RURAL FIRE TRUCK

Use the Portable Pumper at water sources inaccessible to your truck. With the Portable Pumper operating in tandem with the pump on your truck you can pump through thousands of feet of hose. The Portable Pumper supplies water to the truck pump which boosts the pressure and relays the water to the fire for effective streams.

Write for Fire Equipment Catalog and New 1954 Fire Apparatus Booklet

AT YOUR SERVICE: Sales and Service Representatives — East, Midwest, North, South

W. S. DARLEY & CO., Chicago 12

Factories — Chicago and Chippewa Falls, Wis.

3 WORKHORSES for YOU
With Amazing Performance

HALE Portable Pumping Units

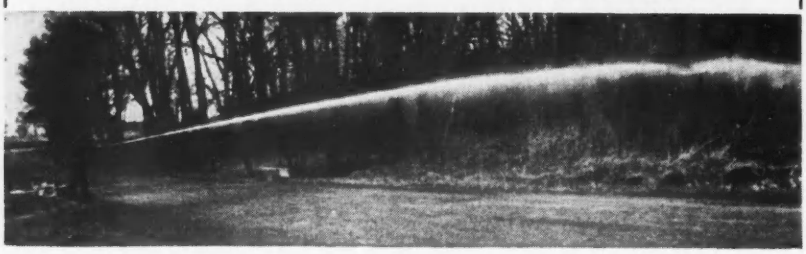
	U. S. Gallons Per Minute	Disch. Press. Lbs. Per Sq. In.
FZZ	60 100	90 70
FZ	50 300	60 10
HPZZ	15 50	200 100

These 3 pumping "Workhorses" provide amazing volumes and pressures for efficiently fighting a great variety of fires. All three units are conveniently portable by two men; can be easily mounted or carried on any type of apparatus for fighting fires while in motion from booster tank; often used to pump from inaccessible water source into major pumper, or to fight fires direct.

Write today for Circulars on Models FZZ, FZ and HPZZ—at least one of which is sure to meet your fire fighting requirements. Ask for demonstration; no obligation.

Fire Pumps in All Standard Capacities

HALE FIRE PUMP CO.
Conshohocken, Pa.



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BE ON THE CONSTANT ALERT
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Portable Canvas Water Tanks
THE ECONOMICAL AND EFFICIENT WAY TO CARRY AND STORE WATER.

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Available in 150 & 300 gallon sizes

A WATER SUPPLY AT THE SCENE OF THE FIRE

Write TODAY for Full Information and Price List
HARODIKES INCORPORATED
NORTH DIGHTON, MASSACHUSETTS

Captain Beam Retires

AFTER 37 years in the fire service Captain V. A. Beam has retired from his position as Coordinator of Firemen's Training for the State of Kentucky.

His career began November 26, 1917, when he joined the Louisville Fire Department as Stoker on Engine Company No. 12. In 1918 he was made Engineer of Louisville's first pumper and in 1919 he became an instructor on pump operation. In 1927 he was appointed assistant drill master of the department and in 1932 was promoted to captain. He remained in this status until 1939 when he received a leave of absence to begin the State Firemen's Training Program.

On April 1st, 1940, Captain Beam was first appointed State Instructor at the Vocational Division of the Kentucky Department of Education. He was raised to State Coordinator of Firemen's Training on January 1, 1947.

He will be succeeded in that position by J. E. Berryman of Lexington, Kentucky.

Dates to Remember

Arizona: The Second Annual Arizona State Fire Training School is scheduled to be held in Phoenix, October 14, 15 and 16. Write to: Edwin C. Gracey, Supervisor of Trade and Industrial and Distributive Education, Department of Vocational Education, 400 Arizona State Building, Phoenix, Arizona.

Illinois: Annual Conference of the Illinois Fire Chiefs' Association will be at the Hotel Faust, Rockford, Ill., December 9–10. For further information write to Chief Herbert Bush, Centralia Fire Department, Centralia, Ill.

Indiana: The 21st Annual Indiana State Fire School will be held at Purdue University, Lafayette, September 14–17. Write to Director Francis W. Hartman, Chief of Fire Training, Bldg. FWA7, Purdue University, West Lafayette, Indiana.

Kansas: The 25th Annual Kansas State Fire School will be held at the University of Kansas in Hutchinson, October 12–15. Write to Director Gerald Pearson, University of Kansas Extension Classes, 111 Fraser Hall, Lawrence, Kansas.

Maryland: The 21st Annual Short Course will be held at the University of Maryland, College Park, September 7–10. Write to Robert C. Byrus, Director, Fire Service Extension, Box 85, University of Maryland, College Park, Maryland.

Ohio: The 9th Annual Ohio State Fire School will be held in Columbus, September 13–17. Write to Wayne C. Jenkins, Assistant Fire School Director, Division of State Fire Marshal, Columbus 15, Ohio.

Virginia: The Annual State Fire School will be held in Norfolk, September 13–17. Write to Clay A. Easterly, Fire Marshal, P. O. Box 1112, Martinsville, Virginia.

Those Who Know Insist On HANNAY HOSE REELS

New Ahrens-Fox Truck made for the City of Cameron, Texas, and equipped with HANNAY Hose Reels.

Check the Superior Advantages

HANNAY ELECTRIC DRIVE HOSE REELS

Water Resistant
Vapor Resistant
Explosion-Proof

- ★ Extra strong construction to withstand high pressures.
- ★ Explosion-proof, heavy duty motor protected against fog, foam, fumes and water.
- ★ Sealed push button control.
- ★ Safe rewind speed, always under control.
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....LOOK FOR THIS

The continuing and increasing approval of Hannay Hose Reels by leading manufacturers and major fire departments is sound evidence of their superiority. Progressive fire officials, of large municipal departments and volunteer companies alike, know that when the going is tough there's no time for mechanical upsets . . . and that HANNAY Hose Reels can always be depended upon to do *their* part of the job. Attention to details makes for perfection. Specifying HANNAY Hose Reels is a detail that warrants your fullest consideration.

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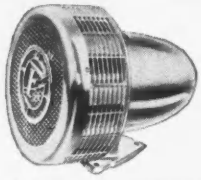
MANUFACTURERS OF MANUAL AND POWER OPERATED HOSE REELS FOR EVERY PURPOSE

NEW EQUIPMENT
Safety
DEMANDS IT...



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BEACON RAY LIGHT

Your new apparatus has more speed, more essential equipment . . . it NEEDS the best possible warning signals! Be sure, protect apparatus — and *lives* — with the Federal Beacon Ray, the 360° rotating light rated best on the market, and a Federal Class "C" or "Q"siren, finest, most powerful you can buy!

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SENSIBLE
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QUALITY *and* **SAFETY**

The improved Powhatan "Sensible-Lug Couplings" are precision tooled and manufactured of only the best high-grade materials. They set a standard that is "tops" in this specialized field of fire-fighting equipment. The curved surfaces of this modern coupling enable the hose to glide easily over all obstructions, thus preventing snagging, an important safety and economical feature appreciated by those who know.

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RANSON, WEST VIRGINIA
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Established 1892

Membership Report

PRESENT NFPA Fire Department membership of 2,099 departments and 25,403 men includes a good cross-section of paid and volunteer departments in the United States and Canada. A recent survey shows that all but a few of the paid fire departments in major cities of the United States have NFPA memberships.

In some of the larger departments such as Los Angeles and New York City a number of officers and fire fighters have individual memberships in the Association.

Recently, Fire Commissioner Francis X. Cotter of Boston, Massachusetts, took out NFPA memberships for 52 of Boston's fire stations. The Los Angeles County Fire Department has such memberships for each of its 60 fire stations. Other cities which have memberships for every station include Houston and Dallas, Texas; Providence, Rhode Island; Memphis, Tennessee; Des Moines, Iowa; Berkeley, California, and Davenport, Iowa.

Each fire station receives single subscriptions to FIREMEN Magazine, to the monthly *Fire News*, and the NFPA *Quarterly*, plus other publications which are sent out as part of NFPA membership.

If more than one subscription to FIREMEN is wanted for fire stations, then extra subscriptions may be obtained at the time of membership renewal for only $1.25 each.

This type of membership is not to be confused with the regular Fire Department Membership through which six subscriptions to FIREMEN are sent to member departments at no extra charge beyond the $12.50 annual dues. The 6-copy plan is available only to municipal paid, call, or volunteer fire departments, or chiefs of such departments.

NFPA Welcomes

British Columbia: Union Bay Volunteer Fire Department, Union Bay.

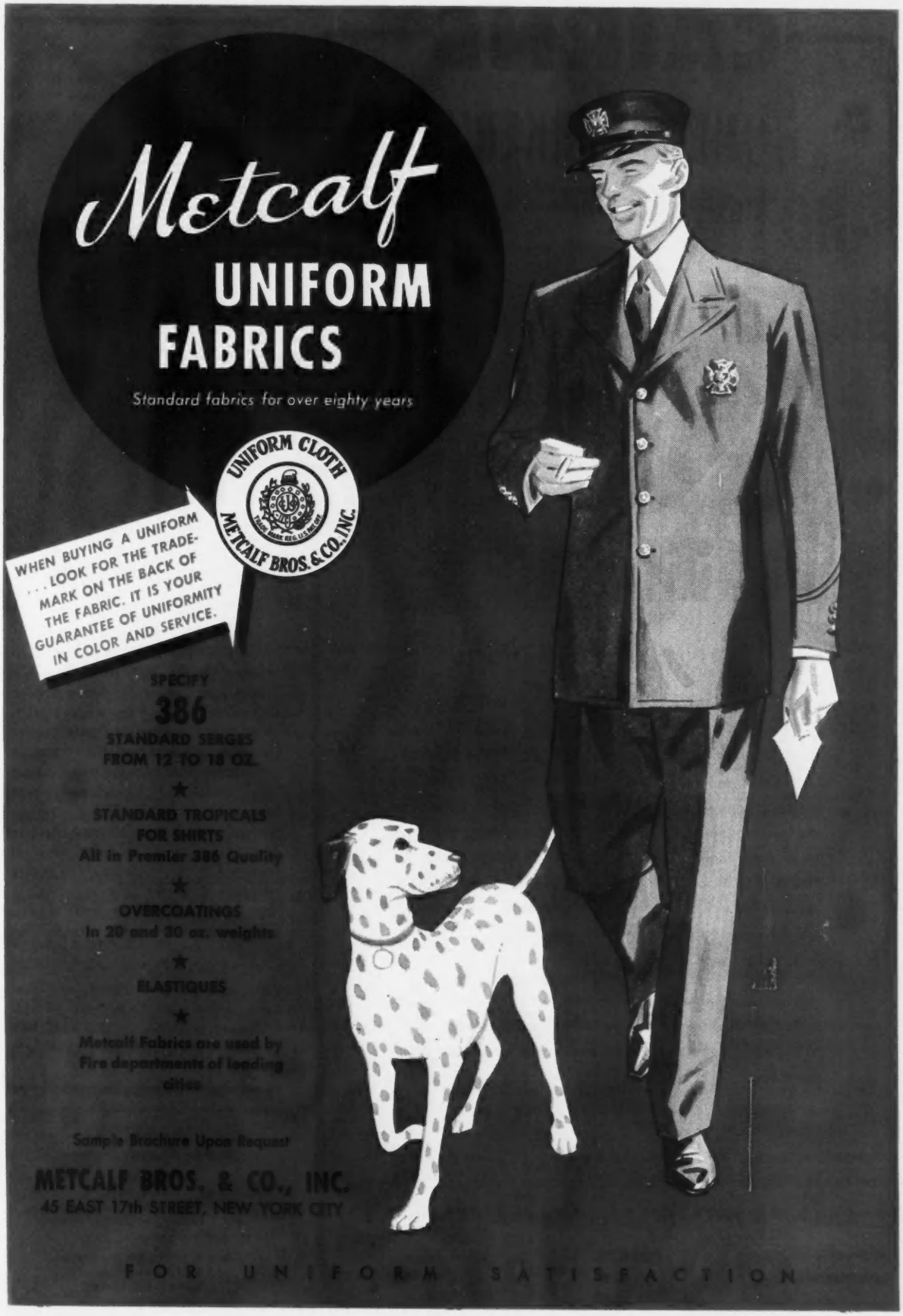
California: The Riverdale Fire District, Riverdale.

Illinois: Winfield Volunteer Fire Department, Winfield.

Indiana: Chief Clinton J. Baals, Fort Wayne Fire Department, Fort Wayne.

Tennessee: Blountville Volunteer Fire Department, Blountville.

Wisconsin: Shullsburg Fire Department, Shullsburg.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Standard fabrics for over eighty years
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CAIRNS

"NEW YORKER"

No. 5A - REGULATION

LEATHER HELMET

A National Standard
For a Hundred Years

The "original" of all leather helmets, the "NEW YORKER" was introduced by CAIRNS in the early 1800's and has steadily been improved in design and material throughout the years since. Its selected, specially-tanned, top-grain steer hide leather and its time-tested design make the "NEW YORKER" the safest, toughest, strongest, most durable helmet on the market — approved and accepted by the largest, most efficient fire departments in America.

The CAIRNS LIFE-GUARD LINE also includes other leather helmets, in other weights — as well as helmets in aluminum and FLINT-FLEX plastic in regulation and drop-brim styles. We supply everything a fireman needs for his personal equipment.

Write for Catalog 340

CAIRNS & BRO., INC. - Allwood, Clifton, N. J.

SINCE 1836

Peter Pirsch

PETER PIRSCH, one of the foremost manufacturers of fire equipment in the United States, died of a heart attack in his Kenosha, Wisconsin, plant, on July 14. He was 88 years old.

His career as inventor and manufacturer of fire apparatus dated back to 1898 when he established his firm with a patent on a ladder and a capital of $13.

It said that his interest in fire fighting began in 1871, when as a boy he watched the sky blaze during the great Chicago fire. Prior to that time he had learned the blacksmith trade with his father who founded a carriage and wagon factory in 1857.

In his early years he became an active member of the Kenosha Volunteer Fire Department and he also was a leader in many other civic activities in his home town. In 1944 he was elected honorary member of the International Association of Fire Chiefs.

Peter Pirsch is credited with developing the first motorized fire truck in 1910. He also invented the trussed ladder, and in 1908 a hose clamp and a door opener which are still used by many fire departments.

In 1931 he was cited by Congress for saving the lives of 16 firemen who were trapped in the Chicago Sanitary District tunnel fire. In response to a call for aid Pirsch drove fire apparatus from Kenosha to Chicago, a distance of 56 miles, which he traveled in 88 minutes. On arrival he used a smoke ejector which he had developed and at least 16 men were saved from a fire which killed 11 and injured 54.

At the time of his death he was president of Peter Pirsch and Sons Company and chairman of the board of directors. His son, William R. Pirsch, is vice president of the firm.

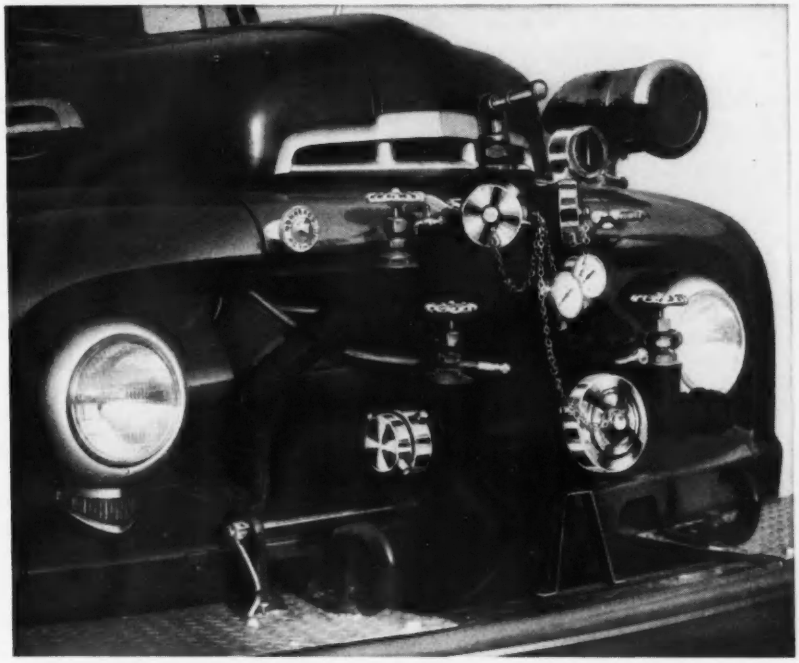
WANTED !

Assistant Safety Engineer

Large eastern gas utility has vacancy for an engineer to assist its Safety Director. Some safety experience desirable. Reply giving age, education and work experience.

Box G, FIREMEN Magazine
60 Batterymarch Street,
Boston 10, Mass.

SOLVE SEVEN PROBLEMS



with the BARTON-AMERICAN TYPE UA Front-Mounted PUMP

Problem—Your community needs additional fire protection—but the "budget" is already strained?

Solved—You can get a pumper with powerful, top-quality Barton-American Front-Mounted Pump for a minimum investment!

Problem—Need a pump that delivers plenty of pressure—for fog as well as straight streams?

Solved—The UA Pump delivers pressures to 400 pounds—serves two or more hose lines.

Problem—Need a pumper to handle grass and brush fires economically—as well as buildings and larger fires?

Solved—With a UA Pump, your engine costs less to buy, less to operate, less to maintain—yet fights fires while moving.

Problem—Do complex pump controls make training of recruits and volunteers difficult?

Solved—Front-mounted pump controls are "on-the-spot" and simple to operate. (Cost less, too.)

Problem—Need maximum water carrying capacity because water is scarce in some areas?

Solved—On a given chassis, you can carry up to 600 lbs. of extra water or equipment if truck has a front-mounted UA.

Problem—Does your climate make extra summer engine cooling and winter frost-proofing necessary?

Solved—The Barton-American UA Pump is frost-proof—and gives engine extra summer cooling.

Problem—Need a pumper you can drive right up to pond or stream for fast water supply?

Solved—A front-mounted UA Pump drafts water in places inaccessible to a midship pumper.

AMERICAN-MARSH PUMPS

BATTLE CREEK MICHIGAN

CANADIAN PLANT:
American-Marsh Pumps (Canada) Ltd. • Stratford, Ontario

Got a Copy in Your Fire Station?

11th Edition (1954)
NFPA Handbook of Fire Protection

$10.50

Write to:

National Fire Protection Association
60 Batterymarch Street,
Boston 10, Massachusetts.

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What's New in Fire Equipment, Catalogs and Bulletins

Every fire company can find use for the Key-Hak power saw rescue kit consisting of portable power saw, heavy-duty ¼-inch electric drill, three dozen assorted wood and metal cutting blades in heavy-gauge steel case. Write to *Key-Hak Division, Producers and Distributors, Inc., 714 S. Sixth Street, Allentown, Pennsylvania.* . . . Check with *Sharpsville Steel Fabricators, Inc., Sharpsville, Pennsylvania,* before buying tankers, pumpers, squad and emergency cars, service, crash and ladder trucks. . . . Have you seen the new Studebaker AMBULET — a versatile ambulance and special-service car for community and industrial use? For specifications, write to the *Studebaker Corporation, South Bend 27, Indiana.*

Does your equipment include the popular multi-purpose, forceable entry Halligan tool? Weighing only 8½ pounds, it is cross-forged from one piece of steel, will open doors, hasps and padlocks quickly and is a handy item for quick work on roofs. Get the full story from the designer and manufacturer: *M. A. Halligan, 1505 Metropolitan Avenue, New York 62, N. Y.* . . . The Waterous Company announces a new single-stage 500 gpm Class A centrifugal fire pump CA-1B that accommodates deluxe accessory equipment. This new pump replaces Model CA-1 in the famous Waterous line. Free illustrative literature is available from the *Waterous Company, 70 E. Fillmore Avenue, St. Paul 1, Minnesota.* . . . A new company, *Link Radio Corporation, 125 W. 17th Street, New York 11, N. Y.*, has taken over the former Link Radio Corporation of Delaware, a pioneer in the field of mobile radio-communication equipment. Murray Platt, president of the new Link Corporation, announces that production is in full swing for all types of past and present Link equipment to meet the needs of the fire service, industrial firms and civilian defense groups.

American-LaFrance-Foamite Corporation, of Elmira, New York, manufacturers of fire fighting equipment since 1834, announce their new proportioner. Attached to the 2½-inch discharge gate of a pumper it produces Airfoam for extinguishing gasoline, oil or grease fires. A wetter water metering device is a separate part and permits drafting wetter water solution for Class A fires and for drafting Airfoam liquid for flammable-liquid fires. Write American-LaFrance-Foamite Corporation for free illustrative literature. . . . A new high-quality chain saw for only $179 has been introduced by *Strunk Equipment Company, Coatesville, Pennsylvania.* Manufacturer points to years of research to perfect a high-speed, gearless drive with new simplified design. . . . Do your men know what causes lightning and the way a lightning protective system works? Informative booklets on this important subject are offered free by the *United Lightning Protection Association, Inc., 404 Jefferson Building, Syracuse 2, New York.*

J. W. Onan & Sons, Inc., Minneapolis, Minnesota, will soon have at their distributors' showrooms a new demonstrator-display van called the Onan Power House. Ask your nearest Onan dealer for a demonstration on operation and maintenance of Onan electric generating plants, especially Model O7AH-1M mounted on a fire department "quick-release" type bracket. . . . To transport dry chemical fire extinguishers in industrial plants quickly to the scene of a fire, *Ansul Chemical Company, Marinette, Wisconsin,* has developed a rubber-tired ball-bearing cart known as the PULL-IT, carrying a 30-pound, dry-chemical extinguisher, equipped with 6 feet of rubber hose for operation of the extinguisher from the cart.

Weighing only 5 pounds, including batteries and designed for one-hand operation, is the new Audio Hailer, a self-contained power megaphone amplifying voice 1,000 times. Get full information from *Audio Equipment Company, Inc., 805 Middle Neck Road, Great Neck, New York.* . . . Industrial plants in your community should know about the new mobile in-plant Fire Fighter now produced by the *Kalamazoo Manufacturing Company, Kalamazoo, Michigan.* Ask manufacturer for literature to show in your district. . . . Fire-hose maintenance begins and ends with cleanliness. The *Tarrant Manufacturing Company, 27-29 Jumel Street, Saratoga Springs, New York,* announces the Torco "Grit-Digger" hose washer. A high-powered shower bath of fine, needle-jet water sprays digs into hose fabric as hose is pulled through a cylindrical container. Write manufacturer for complete information. . . . A vest-pocket sized attachment is claimed to double the straight-stream range of any garden hose, and a quick twist of the plastic handle changes straight stream to fine fog in an instant. Write to *Bete-Fog Nozzle, Inc., 309 Wells Street, Greenfield, Mass.*, for information on their new "Mister Jet" garden-hose attachment.

Cardox Corporation announces "Aqua-Foampak," a portable foam fire fighting unit for use on truck or trailer or in fixed installations. Complete with storage tanks for water and mechanical foam concentrate, a high pressure cylinder of compressed air or nitrogen and proportioning and discharge systems, "Aqua-Foampak" develops 1200 gallons of foam at 600 gpm. Write for descriptive bulletin to *Cardox Corporation, Bell Building, Chicago 1, Illinois.*

Put Your Fire Department's Name on These for

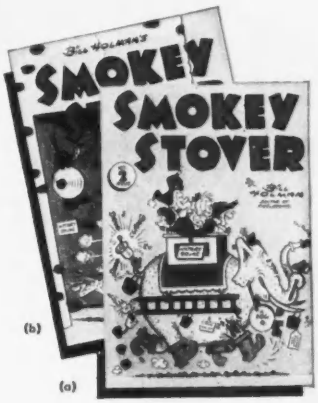
Fire Prevention Week

1. Poster — Red and Black 12 x 16

2. "FACTS ABOUT FIRE" 8½ x 11
4 pg. rotogravure
pictorial fact sheet

3. DISPLAY CARD 12 x 16
2 colors
Reproduction of Poster
With Easel Attached

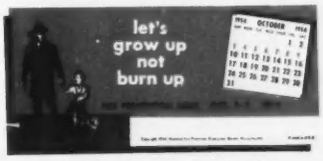
6. STICKER —
1½ x 1⅛ Perforated — Use on outgoing correspondence, packages, etc.



5. FIRE COMIC BOOKS 7½ x 10
(a) 16 pages — Full color — Smokey Stover No. 2 — "Hot Tips on Child Fire Safety"
(b) 16 pages — Full color — Smokey Stover's "Hot Tips" on how to prevent fires.

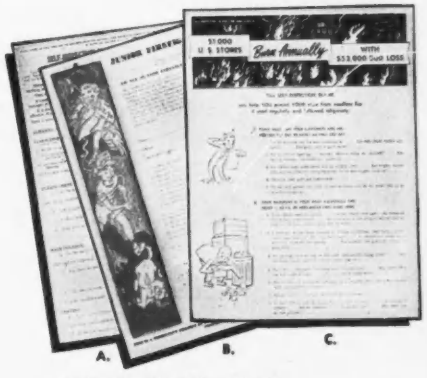
7. COLORING BOOK — Red and Black, 16 pages of outline drawings for coloring by children, with fire prevention in song and story.

4. COLORING SHEET — 8½ x 11
Sparky's Fire Prevention Week
Message for Children



9. BLOTTER — Two colors 8½ x 4¾

10. FLYER — Two colors 5½ x 8½



8. INSPECTION BLANKS — 8½ x 11
A. Self-inspection form for Industrial Plants (one color)
B. Junior Firefighters Report (two colors)
Home inspection blank for school distribution
C. Self-inspection blank for Merchants (one color)

11. FOLDERS — In several colors 6¼ x 3¼
For including in letters, home distribution, etc.

Use Easy-Order Blank on Back Cover

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Boston, Mass.

POSTMASTER: If undeliverable FOR ANY REASON, notify sender, stating reason, on Form 3547.

Fire Prevention Week October 3-9

Be sure to order what you need before

September 22

Lots of kids will be in your fire station during Fire Prevention Week — October 3–9. Why not have some "Smokey Stover" comic books for them?

You can put many other materials to good use. The NFPA again has posters, display cards and inspection blanks designed particularly for Fire Prevention Week. You can put the name of your fire department on each piece before you distribute them.

Look at the inside back cover of this issue. Pick out everything you will need for catching attention during Fire Prevention Week.

Then fill in the quantity of each item in the order blank below. Print your name, or the name of your fire department and the address.

Be sure that your order reaches NFPA before September 22! Orders which arrive after that date cannot be mailed in time for use during Fire Prevention Week.

USE THIS EASY-ORDER BLANK TODAY

Order now to forestall transportation delays. Orders received after September 22 cannot be accepted.

QUANTITY

..... 1. Poster—$2.50 per 100, $17.50 per 1000.
..... 2. Facts About Fire—$2.00 per 100, $15.00 per 1000.
..... 3. Display Card—25c each, discount for quantities.
..... 4. Coloring Sheet—75c per 100, $6.00 per 1000.
5. Comic Books—5c each, $45.00 per 1000.
..... (a) Smokey Stover No. 2.
..... (b) Smokey Stover.
..... 6. Sticker—15c for sheet of 50, discount for quantities.
..... 7. Coloring Book—5c each, $5.00 per 1000, $45.00 per 1000.
8. Inspection Blanks—8½ x 11.
..... (a) Industrial—$1.00 per 100, $7.50 per 1000.
..... (b) Home Inspection Blank—$1.00 per 100, $7.50 per 1000.
..... (c) Mercantile—$1.00 per 100, $7.50 per 1000.

QUANTITY

..... 9. Blotter—$1.50 per 1000, $12.50 per 1000.
..... 10. Flyer — $1.00 per 100, $7.00 per 1000.
..... 11. (a) Folder—$1.50 per 100, $12.50 per 1000.
..... (b) Folder—$2.00 per 100, $17.50 per 1000.
..... (c) Folder—$2.00 per 100, $17.50 per 1000.
..... (d) Folder—$2.00 per 100, $17.50 per 1000.
..... (e) Folder—$2.00 per 100, $17.50 per 1000.
..... (f) Folder—$2.00 per 100, $17.50 per 1000.

NOT ILLUSTRATED BUT AVAILABLE

..... Fire Prevention Week Handbook—complete plans for a successful campaign—15c each.
..... Preventing Home Fires—25c each, discount for quantities.

Mail this order to: **NATIONAL FIRE PROTECTION ASSOCIATION**
60 Batterymarch Street - Boston 10, Massachusetts

PLEASE PRINT F-9-53

NAME

ADDRESS

CITY AND STATE

Prices subject to 2% discount if payment accompanies order. All prices F.O.B. Boston. **ORDERS SHIPPED EXPRESS COLLECT.** NFPA members may receive single copy of all items gratis. Others may receive sample of all items except "Handbook" and Display Card (item 3) free upon request. Items No. 1, 2, 3, 5, 7, 9 and 11(a) (b) (c) (d) (e) (f) have space for imprints of names of campaign sponsors which may be added locally by purchasers.